Service Manual
And
Spare Parts List

CU SERIES

SPLIT SYSTEM

And

PACKAGE UNITS

AIR CONDITIONERS

UNIQU

Engineering & Air Conditioning

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SAFETY FIRST!

Safe operation is UNIQUE's number-one priority when designing products. Please read all the safety information and the instructions completely prior to beginning the installation and operation of the unit.

UNIQUE products are designed for HVAC use. Using this equipment for any other purpose or in a way not within the operation recommendations specified in this manual will void the warranty and may cause injury. This manual is designed to provide comprehensive installation/operation information for this UNIQUE product. The table of contents provides a convenient overview of the information in this manual.

Follow Safety Instructions! Carefully read all safety messages in this manual and on the equipment. Follow recommended practices and safe operating practices. Keep Safety Signs in good condition. Replace missing or damaged Safety Signs.

Danger! In plannig the location of the equipment, take into consideration any areas that could present an unsafe situation. Avoid power lines that could come into contact with the equipment.

Warning! – Electrical Safety. To avoid electrical shock, place equipment in a safe area, use guards around control panels and always shut off and lock out control boxes when working on equipment.
In selecting electrical equipment to be used with the installation, you must use equipment conforming to applicable local or international codes or regulations.

Important! Check all equipment for warning, danger and Caution Decals, before equipment is operated.
Do not by-pass or take shortcuts with electrical safety equipment. Make sure electrical equipment is properly installed and grounded by a qualified electrician, and that it meets and adheres to all local laws and codes.
Be sure covers, guards and safety devices are correctly installed and in proper position.

Danger! Failure to follow proper assembly and operational procedures may cause damage to equipment or personal injury.

NOTES

1. INTRODUCTION

This Service Manual has been prepared as an aid to HVAC installation teams and users, to help you better understand the equipment. This information is also designed to make you aware that the Air Conditioner is a product that must be used with care and understanding.

This Service Manual provides comprehensive technical documentation for all models of UNIQUE-CU split and packaged air conditioners.
The information contained in this manual is useful for application engineers, architects, designers and various level service and installation personnel.
The manual also contains information about the optional features offered by the UNIQUE-CU series, as well as helpful information on split air-conditioners, electrical wiring diagrams and refrigeration cycle diagrams for the various models.

Please read this entire Service Manual and pay particular attention to safety. Your failure to read this manual is a misuse of the product which could result in personal injury or property damage.

The manufacturer reserves the right to change product specifications without prior notice.

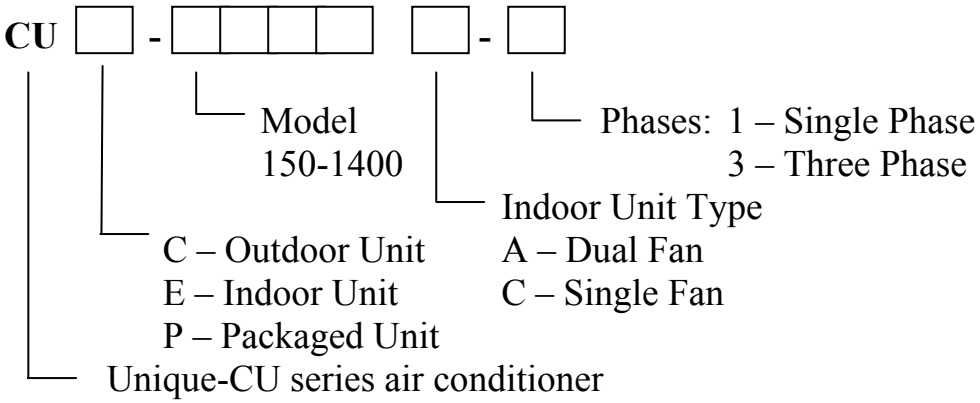
1.1 Product Overview

Unique-CU Air Conditioners are the perfect choice for many residential, industrial and commercial applications, offices and buildings. The operation of Unique-CU Air Conditioners is quiet and the incorporated electronic controls ensure performance, durability and low maintenance requirements.

All Unique-CU Air Conditioners include cooling and heating by heat pump.

All Unique-CU Air Conditioners are ISO-9002 certified**.**

1.2 Product Code



1.3 Nameplate Information

Technical information for a specific unit appears on the unit nameplate, which is attached to the indoor and/or the outdoor units.

The unit nameplate includes the following information:

MODEL	Air-conditioner model name
SERIAL NUMBER	Serial Number of the unit.
CLIMATE CLASS	Class T1 – Standard conditions.
VOLT/PHASE/Hz	A/C power supply, for example: 400/3/50 = 400V/3 Phase/50 Hz.
COS φ	Power factor for the unit.
FUSE	Required fuse size, Amp.
CAPACITORS μF	Compressor capacitor, Outdoor Fan capacitor (wherever applicable)
REFRIGERANT	Type and Quantity of refrigerant charge, Gr.
CAPACITY W	Cooling and heating capacity in Watts according to ISO 5151 standard.
CAPACITY BTU/H	Cooling and heating capacity in BTU/Hr. according to ISO 5151 standard.
INPUT POWER	Power consumption in cooling and heating modes, watts.
AMP.	Current consumption in cooling and heating modes, Amp.
WEIGHT Kg.	Weight of the unit, Kg.

The indoor unit nameplate includes the following information:

MODEL	Air-conditioner model name and unit type
CAPACITORS μF	Indoor Fan capacitor (wherever applicable)
AIR FLOW m^3/h	Air Flow at High Speed in m^3/h
AIR FLOW cfm	Air Flow at High Speed in cfm
WEIGHT Kg.	Weight of the unit, Kg.

2.1 Technical data table – Models CU150, CU200, CU250

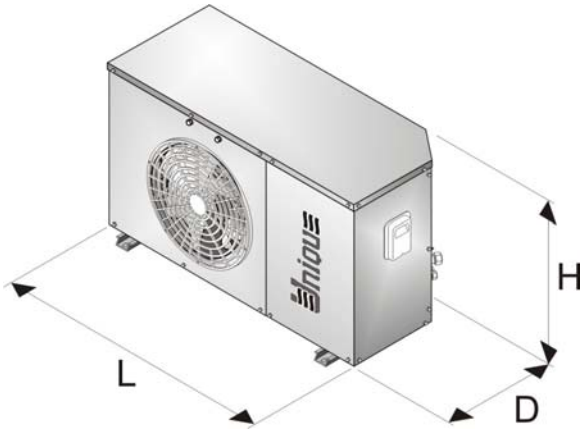
2.1.1 Performance

R22				
Model		**CU150**	**CU200**	**CU250**
Cooling capacity	Watt	4430	5569	7181
	Btu/h	15100	19000	24500
Heating capacity	Watt	4580	5715	7386
	Btu/h	15280	19500	25200
Power Consumption - cooling	Watt	1670	2135	2695
Power Consumption - Heating	Watt	1520	1905	2460
Operating Current (cooling/Heating)	Amp	7.9/7.2	10.1/9.5	12.7/11.6
E.E.R - Energy Efficiency Ratio	Cooling	9.0	8.9	9.1
C.O.P - Coefficient Of Performance	Heating	3.0	3.0	3.0
Refrigerant Charge	gr.	1210	1600	2040
Moisture Removal	Lit/h	2	2.7	3.6
Power Supply	V/Ph/Hz	230V, 1Ph, 50Hz or 400V, 3Ph, 50Hz		
Condensate Lines - Drain	Φ-mm (in)	19 (3/4")		
Time Delay Fuse	Amp.	C-10	C-16	C-16

R407c				
Model		**CU150**	**CU200**	**CU250**
Cooling capacity	Watt	4173	5401	7004
	Btu/h	14240	18430	23900
Heating capacity	Watt	4250	5490	7090
	Btu/h	14500	18730	24192
Power Consumption - cooling	Watt	1715	2155	2680
Power Consumption - Heating	Watt	1490	1950	2410
Operating Current (cooling/Heating)	Amp	8.0/7.1	10.2/9.4	12.7/11.4
E.E.R - Energy Efficiency Ratio	Cooling	8.3	8.6	8.91
C.O.P - Coefficient Of Performance	Heating	2.85	2.84	2.94
Refrigerant Charge	gr.	1200	1610	2000
Moisture Removal	Lit/h	2	2.7	3.6
Power Supply	V/Ph/Hz	230V, 1Ph, 50Hz or 400V, 3Ph, 50Hz		
Condensate Lines - Drain	Φ-mm (in)	19 (3/4")		
Time Delay Fuse	Amp.	C-10	C-16	C-16

Notes:
1. Nominal cooling capacity based on indoor air temp.
   27ºC db/19.5ºC wb and outdoor air temp. 35ºC db/24º wb.
2. Nominal heating capacity based on indoor air temp.
   21ºC db and outdoor air temp. 7.5ºC db/6.1ºC wb.

2.1.2 Outdoor Unit Data – Models CU150, CU200, CU250



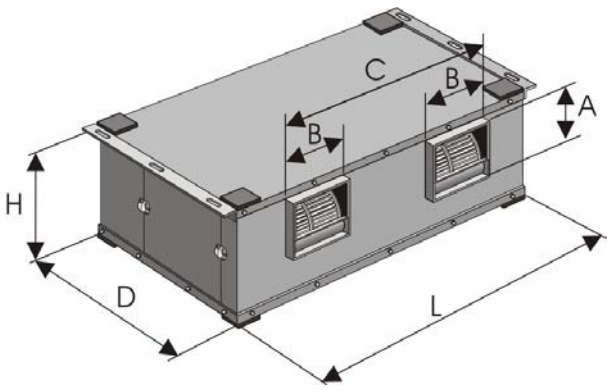
Model			CU150	CU200	CU250
Casing color			RAL 7032	RAL 7032	RAL 7032
Dimensions (LxDxH)		mm	900x380x585	900x380x585	900x380x585
Air flow (at high speed)		m^3/h	2465	3230	3400
		cfm	1450	1900	2000
Noise Level (see note 1)		dbA	44	46	46
Fittings		Type	Flare	Flare	Flare
Expansion Device			Capillary Tube	Capillary Tube	Capillary Tube
Axial Fan	Diameter/No.	mm	500/1	500/1	500/1
Outdoor Fan Motor		KW	0.15	0.15	0.15
Motor Capacitor		µF/Volt	5/400	5/400	5/400
Speed (High/Low)		R.P.M	900/700	900/700	900/700
Coil	Face Area	m^2/ ft^2	0.34/4.1	0.34/4.1	0.34/4.1
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		2	3	3
	Fins Spacing	Per Inch	12	12	12
Net Weight		Kg.	53	71	73

Notes:
1. Noise level measured at a 4 m. distance in free field.

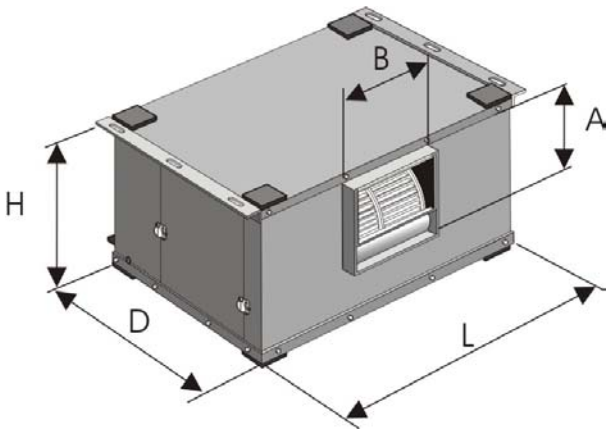
2.1.3 Indoor Unit Data - Models CU150, CU200, CU250

Indoor Unit			CU150-A	CU150-C	CU200-A	CU200-C	CU250-A	CU250-C
Dimensions (LxDxH)		mm	760x450x250	760x550x300	970x450x250	680x600x400	970x450x250	680x600x400
Supply Air Duct Dim. (A, B, C)		mm	102, 212, 604	124, 258	102, 262, 724	265, 305	102, 262, 724	265, 305
Return Air Duct Dim. (WidexHigh)		mm	590x230	590x230	820x230	440x380	820x230	440x380
High Fan Speed (Number of Speeds)		R.P.M	1060 (3)	1300 (4)	1200 (3)	900 (3)	1200 (3)	900 (3)
Air Flow (at High speed)		m^3/h	510	816	918	1190	918	1530
		cfm	300	480	540	700	540	900
Noise Level (see note 1)		dbA	38	40	38	40	38	40
Net Static Pressure (see note 2)		mm H_2O	3	5	3	6	4	6
Indoor Fan Motor		KW	0.037	0.093	0.0745	0.25	0.0745	0.25
Number of Fans			2	1	2	1	2	1
Fan type and Model			Centrifugal 180x145	Centrifugal DD7-7-90W	Centrifugal 220x145	Centrifugal DD9-9-245W	Centrifugal 220x145	Centrifugal DD9-9-245W
Full Load Amperage		Amp.	0.6	1.3	0.6	1.1	0.6	1.1
Motor Capacitor		µF/Volt	3/400	4/400	3/400	8/400	3/400	8/400
Coil	Face Area	m^2/ ft^2	0.13/1.4	0.13/1.4	0.19/2.1	0.17/1.8	0.19/2.1	0.17/1.8
	Tube Diameter	Inch	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
	Rows Deep		4	4	4	4	4	4
	Fins Spacing	Per Inch	12	12	12	12	12	12
Air Filter			1 Removable and Washable Filter					
Net Weight		Kg.	26	28	28	32	32	32

Notes:
1. Noise level at fan high speed, measured at a 4 m. distance in free field.
2. Net static pressure available at fan discharge at nominal capacity.



Indoor Unit Type A



Indoor Unit Type C

NOTES

2.2 Technical data table – Models CU300, CU350, CU400

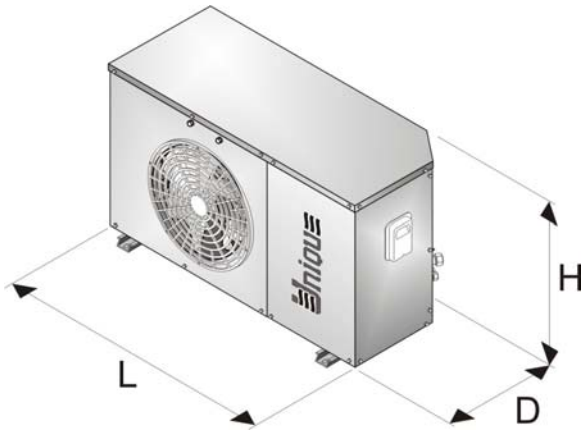
2.2.1 Performance

R22				
Model		**CU300**	**CU350**	**CU400**
Cooling capacity	Watt	8734	9965	11284
	Btu/h	29800	34000	38500
Heating capacity	Watt	8792	10111	11430
	Btu/h	30000	34500	39000
Power Consumption - cooling	Watt	3240	3470	4410
Power Consumption – Heating	Watt	2750	3260	4155
Operating Current (cooling/Heating)	Amp	15.3/14.5	17.6/16.6	20.8/19.6
E.E.R – Energy Efficiency Ratio	Cooling	9.2	9.8	8.7
C.O.P – Coefficient Of Performance	Heating	3.2	3.1	2.8
Refrigerant Charge	gr.	2480	2830	3210
Moisture Removal	Lit/h	4	4.2	4.8
Power Supply	V/Ph/Hz	230V, 1Ph, 50Hz or 400V, 3Ph, 50Hz		
Condensate Lines – Drain	Φ-mm (in)	19 (3/4")		
Time Delay Fuse	Amp.	C-20 or 3xC-10	C-20 or 3xC-10	C-25 or 3xC-16

R407c				
Model		**CU300**	**CU350**	**CU400**
Cooling capacity	Watt	8602	9730	11137
	Btu/h	29350	33200	38000
Heating capacity	Watt	8440	9710	10980
	Btu/h	28800	33130	37500
Power Consumption - cooling	Watt	3200	3460	4380
Power Consumption – Heating	Watt	2800	3195	4070
Operating Current (cooling/Heating)	Amp	15.1/13.2	16.3/15.1	20.7/19.2
E.E.R – Energy Efficiency Ratio	Cooling	9.1	9.76	8.67
C.O.P – Coefficient Of Performance	Heating	3.01	3.0	2.7
Refrigerant Charge	gr.	2500	2850	3200
Moisture Removal	Lit/h	4	4.2	4.8
Power Supply	V/Ph/Hz	230V, 1Ph, 50Hz or 400V, 3Ph, 50Hz		
Condensate Lines – Drain	Φ-mm (in)	19 (3/4")		
Time Delay Fuse	Amp.	C-20 or 3xC-10	C-20 or 3xC-10	C-25 or 3xC-16

Notes:
1. Nominal cooling capacity based on indoor air temp.
   27ºC db/19.5ºC wb and outdoor air temp. 35ºC db/24º wb.
2. Nominal heating capacity based on indoor air temp.
   21ºC db and outdoor air temp. 7.5ºC db/6.1ºC wb.

2.2.2 Outdoor Unit Data – Models CU300, CU350, CU400



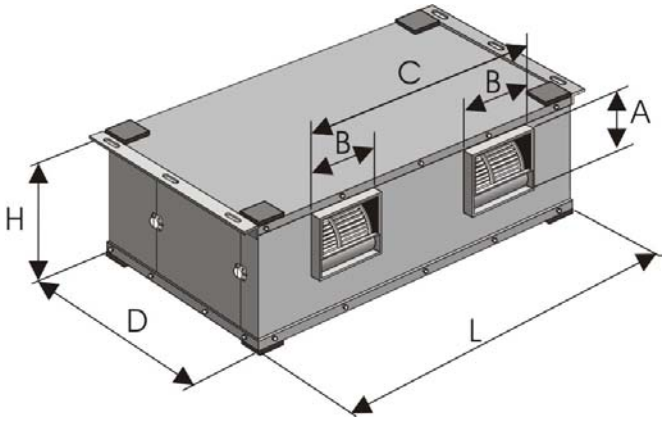
Model			CU300	CU350	CU400
Casing color			RAL 7032	RAL 7032	RAL 7032
Dimensions (LxDxH)		mm	1080x380x585	1080x380x585	1080x380x585
Air flow (at high speed)		m^3/h	3910	3910	4250
		cfm	2300	2300	2500
Noise Level (see note 1)		dbA	46	46	47
Fittings		Type	Flare	Flare	Flare
Expansion Device			Capillary Tube	Capillary Tube	Capillary Tube
Axial Fan	Diameter/No.	mm	500/1	500/1	500/1
Outdoor Fan Motor		KW	0.15	0.15	0.15
Motor Capacitor		µF/Volt	5/400	5/400	5/400
Speed (High/Low)		R.P.M	900/700	900/700	900/700
Coil	Face Area	m^2/ ft^2	0.44/4.75	0.44/4.75	0.44/4.75
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		3	3	4
	Fins Spacing	Per Inch	12	12	12
Net Weight		Kg.	78	78	96

Notes:
1. Noise level measured at a 4 m. distance in free field.

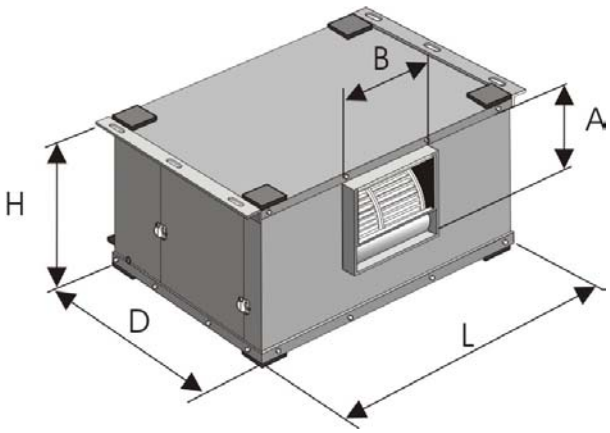
2.2.3 Indoor Unit Data - Models CU300, CU350, CU400

Indoor Unit			CU300-A	CU300-C	CU350-A	CU350-C	CU400-A	CU400-C
Dimensions (LxDxH)		mm	1000x550x300	680x600x400	1000x550x300	680x600x400	1100x550x300	780x600x400
Supply Air Duct Dim. (A, B, C)		mm	124, 258, 742	265, 305	124, 258, 742	265, 305	124, 258, 706	265, 305
Return Air Duct Dim. (WidexHigh)		mm	760x280	520x380	760x280	520x380	950x280	620x380
High Fan Speed (Number of Speeds)		R.P.M	930 (3)	900 (3)	930 (3)	900 (3)	1300 (4)	900 (3)
Air Flow (at High speed)		m^3/h	1870	1870	1870	1870	2295	2295
		cfm	1100	1100	1100	1100	1350	1350
Noise Level (see note 1)		dbA	40	40	40	40	40	41
Net Static Pressure (see note 2)		mm H_2O	5	7	5	7	6	7
Indoor Fan Motor		KW	0.15	0.25	0.15	0.25	2x0.093	0.37
Number of Fans			2	1	2	1	2	1
Fan type and Model			Centrifugal DD7-7-147W	Centrifugal DD9-9-245W	Centrifugal DD7-7-147W	Centrifugal DD9-9-245W	Centrifugal DD7-7-90W	Centrifugal DD9-9-370W
Full Load Amperage		Amp.	1.2	1.1	1.2	1.1	2x1.3	2.6
Motor Capacitor		µF/Volt	5/400	8/400	5/400	8/400	2x4/400	8/400
Coil	Face Area	m^2/ ft^2	0.21/2.27	0.20/2.16	0.21/2.27	0.20/2.16	0.27/2.92	0.24/2.59
	Tube Diameter	Inch	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
	Rows Deep		4	4	4	4	4	4
	Fins Spacing	Per Inch	12	12	12	12	12	12
Air Filter			1 Removable and Washable Filter					
Net Weight		Kg.	40	35	40	35	50	41

Notes:
1. Noise level at fan high speed, measured at a 4 m. distance in free field.
2. Net static pressure available at fan discharge at nominal capacity.



Indoor Unit Type A



Indoor Unit Type C

NOTES

2.3 Technical data table – Models CU450, CU480, CU500

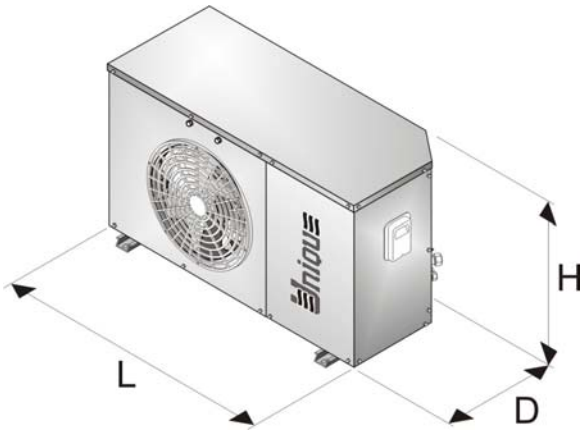
2.3.1 Performance

R22				
Model		**CU450**	**CU480**	**CU500**
Cooling capacity	Watt	13189	14009	14654
	Btu/h	45000	47800	50000
Heating capacity	Watt	13335	14185	15533
	Btu/h	45500	48400	53000
Power Consumption - cooling	Watt	5060	5400	5730
Power Consumption - Heating	Watt	4760	5000	5350
Operating Current (cooling/Heating) See note 3	Amp	8.5/8.4	8.9/8.4	9.6/9.0
E.E.R - Energy Efficiency Ratio	Cooling	8.9	8.85	8.7
C.O.P - Coefficient Of Performance	Heating	2.8	2.84	2.9
Refrigerant Charge	gr.	3750	3980	4160
Moisture Removal	Lit/h	5.9	6.7	6.9
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Condensate Lines - Drain	Φ-mm (in)	19 (3/4")		
Time Delay Fuse	Amp.	3xC-16	3xC-16	3xC-16

R407c				
Model		**CU450**	**CU480**	**CU500**
Cooling capacity	Watt	12896	13745	14390
	Btu/h	44000	46900	49100
Heating capacity	Watt	12820	13700	14920
	Btu/h	43740	46750	50910
Power Consumption - cooling	Watt	5000	5300	5700
Power Consumption - Heating	Watt	4700	4750	5250
Operating Current (cooling/Heating) See note 3	Amp	8.3/7.8	8.8/7.9	9.4/8.8
E.E.R - Energy Efficiency Ratio	Cooling	8.8	8.84	8.6
C.O.P - Coefficient Of Performance	Heating	2.72	2.88	2.84
Refrigerant Charge	gr.	3800	4000	4200
Moisture Removal	Lit/h	5.9	6.7	6.9
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Condensate Lines - Drain	Φ-mm (in)	19 (3/4")		
Time Delay Fuse	Amp.	3xC-16	3xC-16	3xC-16

Notes:
1. Nominal cooling capacity based on indoor air temp. 27ºC db/19.5ºC wb and outdoor air temp. 35ºC db/24º wb.
2. Nominal heating capacity based on indoor air temp. 21ºC db and outdoor air temp. 7.5ºC db/6.1ºC wb.
3. Operating current at the most loaded phase.

2.3.2 Outdoor Unit Data – Models CU450, CU480, CU500



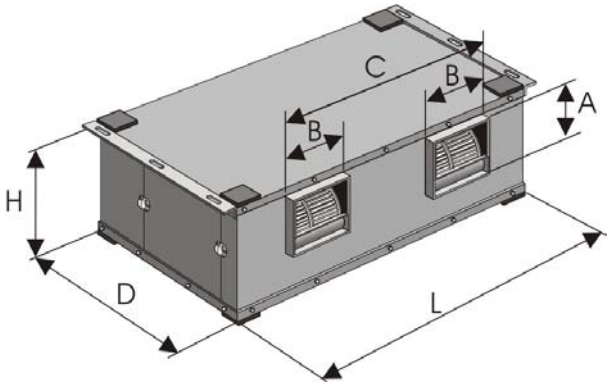
Model			CU450	CU480	CU500
Casing color			RAL 7032	RAL 7032	RAL 7032
Dimensions (LxDxH)		mm	1150x415x661	1150x415x661	1150x415x661
Air flow (at high speed)		m^3/h	4760	5100	5780
		cfm	2800	3000	3400
Noise Level (see note 1)		dbA	47	48	50
Fittings		Type	Flare	Flare	Flare
Expansion Device			Capillary Tube	Capillary Tube	Capillary Tube
Axial Fan	Diameter/No.	mm	500/1	500/1	550/1
Outdoor Fan Motor		KW	0.15	0.15	0.37
Motor Capacitor		µF/Volt	5/400	5/400	10/400
Speed (High/Low)		R.P.M	900/700	900/700	900/700
Coil	Face Area	m^2/ ft^2	0.51/5.5	0.72/7.8	0.72/7.8
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		4	3	4
	Fins Spacing	Per Inch	12	12	12
Net Weight		Kg.	100	105	115

Notes:
1. Noise level measured at a 4 m. distance in free field.

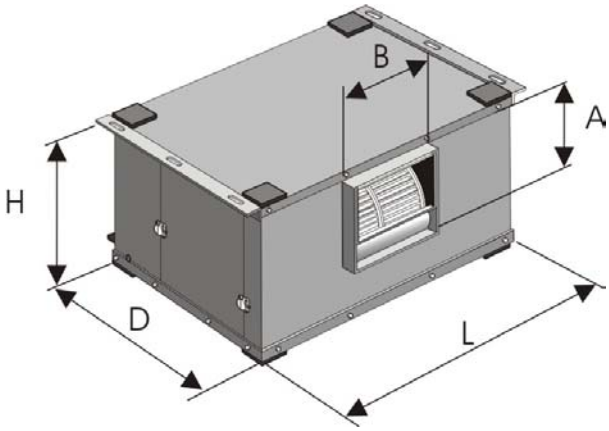
2.3.3 Indoor Unit Data - Models CU450, CU480, CU500

Indoor Unit			CU450-A	CU450-C	CU480-A	CU480-C	CU500-A	CU500-C
Dimensions (LxDxH)		mm	1100x550x300	880x600x400	1100x550x300	880x600x400	1250x550x350	940x700x480
Supply Air Duct Dim. (A, B, C)		mm	124, 258, 706	265, 305	124, 258, 706	265, 340	136, 315x896	295, 335
Return Air Duct Dim. (WidexHigh)		mm	950x280	720x380	950x280	720x381	1050x305	750x457
High Fan Speed (Number of Speeds)		R.P.M	1300 (4)	900 (3)	1300 (4)	900 (3)	1300 (4)	900 (3)
Air Flow (at High speed)		m^3/h	2550	2550	2550	2720	2720	2975
		cfm	1500	1500	1500	1600	1600	1750
Noise Level (see note 1)		dbA	40	41	40	42	40	41
Net Static Pressure (see note 2)		mm H_2O	6	6	6	6	6	13
Indoor Fan Motor		KW	2x0.093	0.37	2x0.093	0.37	2x0.15	0.56
Number of Fans			2	1	2	1	2	1
Fan type and Model			Centrifugal DD7-7-90W	Centrifugal DD9-9-370W	Centrifugal DD7-7-90W	Centrifugal DD9-10-370W	Centrifugal DD7-10-147W	Centrifugal DD10-10-550W
Full Load Amperage		Amp.	2x1.3	1.6	2x1.3	1.6	2x1.1	3.6
Motor Capacitor		µF/Volt	2x4/400	8/400	2x4/400	8/400	2x6/400	10/400
Coil	Face Area	m^2/ ft^2	0.27/2.92	0.27/2.92	0.27/2.92	0.27/2.92	0.32/3.46	0.34/3.67
	Tube Diameter	Inch	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
	Rows Deep		4	4	5	5	4	4
	Fins Spacing	Per Inch	12	12	12	12	12	12
Air Filter			1 Removable and Washable Filter					
Net Weight		Kg.	50	44	52	46	54	50

Notes:
1. Noise level at fan high speed, measured at a 4 m. distance in free field.
2. Net static pressure available at fan discharge at nominal capacity.



Indoor Unit Type A



Indoor Unit Type C

NOTES

2.4 Technical data table – Models CU600, CU700, CU800

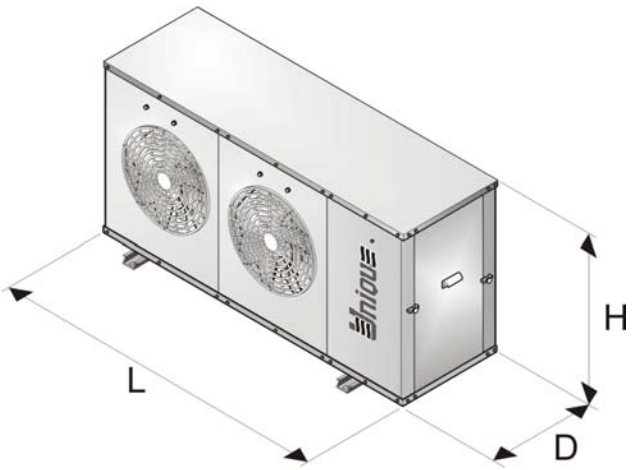
2.4.1 Performance

R22				
Model		**CU600**	**CU700**	**CU800**
Cooling capacity	Watt	17585	21102	24619
	Btu/h	60000	72000	84000
Heating capacity	Watt	17790	21249	24912
	Btu/h	60700	72500	85000
Power Consumption - cooling	Watt	7700	9500	10000
Power Consumption - Heating	Watt	7100	8000	9500
Operating Current (cooling/Heating) See note 3	Amp	12.9/11.9	16.0/13.4	16.8/16.0
E.E.R - Energy Efficiency Ratio	Cooling	7.8	7.6	8.4
C.O.P - Coefficient Of Performance	Heating	2.5	2.6	2.6
Refrigerant Charge	gr.	5010	6050	7050
Moisture Removal	Lit/h	7.8	8.8	10.2
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Condensate Lines - Drain	Φ-mm (in)	22 (7/8")		
Time Delay Fuse	Amp.	3xC-20	3xC-25	3xC-32

R407c				
Model		**CU600**	**CU700**	**CU800**
Cooling capacity	Watt	17291	20515	24180
	Btu/h	59000	70000	82500
Heating capacity	Watt	17410	20650	24200
	Btu/h	59400	70500	82570
Power Consumption - cooling	Watt	7500	9300	9800
Power Consumption - Heating	Watt	7300	8000	9400
Operating Current (cooling/Heating) See note 3	Amp	12.6/12.2	15.6/13.4	16.4/15.8
E.E.R - Energy Efficiency Ratio	Cooling	7.9	7.52	8.4
C.O.P - Coefficient Of Performance	Heating	2.4	2.6	2.57
Refrigerant Charge	gr.	5100	6000	7100
Moisture Removal	Lit/h	7.8	8.8	10.2
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Condensate Lines - Drain	Φ-mm (in)	22 (7/8")		
Time Delay Fuse	Amp.	3xC-20	3xC-25	3xC-32

Notes:
1. Nominal cooling capacity based on indoor air temp. 27ºC db/19.5ºC wb and outdoor air temp. 35ºC db/24º wb.
2. Nominal heating capacity based on indoor air temp. 21ºC db and outdoor air temp. 7.5ºC db/6.1ºC wb.
3. Operating current at the most loaded phase.

2.4.2 Outdoor Unit Data – Models CU600, CU700, CU800



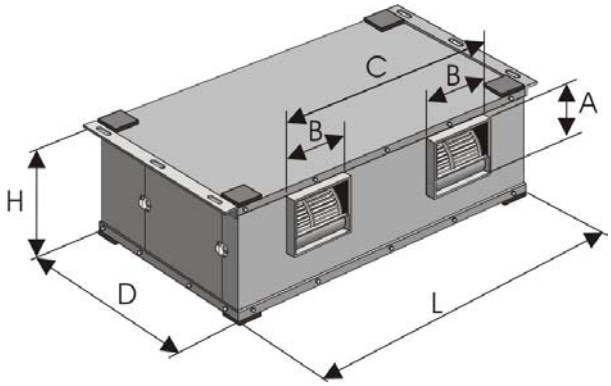
Model			CU600	CU700	CU800
Casing color			RAL 7032	RAL 7032	RAL 7032
Dimensions (LxDxH)		mm	1650x500x730	1650x500x730	1650x500x830
Air flow (at high speed)		m^3/h	8500	10200	11900
		cfm	5000	6000	7000
Noise Level (see note 1)		dbA	52	54	54
Fittings		Type	Flare	Flare	Flare
Expansion Device			Capillary tube or expansion valve		
Axial Fan	Diameter/No.	mm	500/2	550/2	550/2
Outdoor Fan Motor		KW	0.15	0.37	0.37
Motor Capacitor		µF/Volt	5/400	10/400	10/400
Speed (High/Low)		R.P.M	900/700	900/700	900/700
Coil	Face Area	m^2/ ft^2	0.85/9.18	0.85/9.18	0.98/10.58
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		3	4	4
	Fins Spacing	Per Inch	12	12	12
Net Weight		Kg.	150	163	188

Notes:
1. Noise level measured at a 4 m. distance in free field.

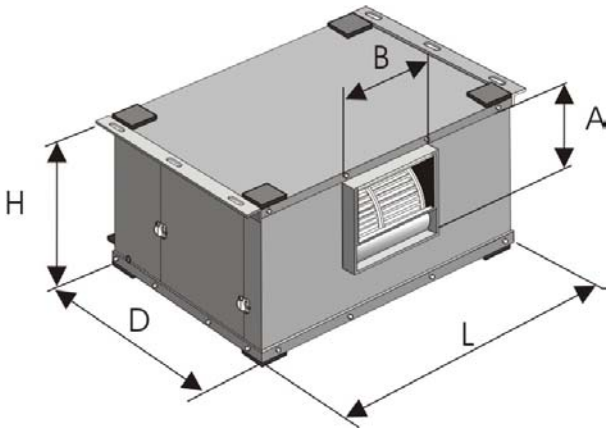
2.4.3 Indoor Unit Data - Models CU600, CU700, CU800

Indoor Unit			CU600-A	CU600-C	CU700-A	CU700-C	CU800-A	CU800-C
Dimensions (LxDxH)		mm	1200x700x400	1040x700x480	1300x700x440	1080x800x550	1480x700x440	1240x800x550
Supply Air Duct Dim. (A, B, C)		mm	265, 305, 900	295, 335	265, 305, 900	345, 400	265, 305, 900	345, 400
Return Air Duct Dim. (WidexHigh)		mm	980x380	850x457	1100x407	880x510	1280x407	1023x510
High Fan Speed (Number of Speeds)		R.P.M	900 (3)	900 (3)	900 (3)	900 (3)	900 (3)	900 (3)
Air Flow (at High speed)		m^3/h	3400	3400	4080	4080	4760	4760
		cfm	2000	2000	2400	2400	2800	2800
Noise Level (see note 1)		dbA	40	41	41	43	41	43
Net Static Pressure (see note 2)		mm H_2O	6	13	6	18	6	8
Indoor Fan Motor		KW	2x0.25	0.56	0.37	0.56	0.37	0.56
Number of Fans			2	1	2	1	2	1
Fan type and Model			Centrifugal DD 9-9-245W	Centrifugal DD10-10-550W	Centrifugal DD 9-9-370W	Centrifugal DD12-12-550W	Centrifugal DD 9-9-370W	Centrifugal DD12-12-550W
Full Load Amperage		Amp.	2x1.1	3.6	2x2.6	4.6	2x2.6	4.6
Motor Capacitor		μF/Volt	2x8/400	10/400	2x8/400	15/400	2x8/400	15/400
Coil	Face Area	m^2/ ft^2	0.37/4	0.39/4.21	0.45/4.86	0.45/4.86	0.52/5.62	0.52/5.62
	Tube Diameter	Inch	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
	Rows Deep		4	4	4	4	4	4
	Fins Spacing	Per Inch	12	12	12	12	12	12
Air Filter			1 Removable and Washable Filter					
Net Weight		Kg.	79	76	82	87	88	93

Notes:
1. Noise level at fan high speed, measured at a 4 m. distance in free field.
2. Net static pressure available at fan discharge at nominal capacity.



Indoor Unit Type A



Indoor Unit Type C

NOTES

2.5 Technical data table – Models CU1000, CU1200, CU1400

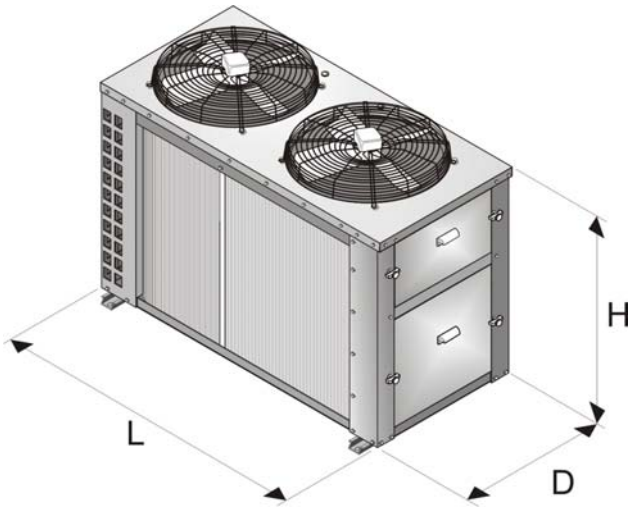
2.5.1 Performance

R22				
Model		**CU1000**	**CU1200**	**CU1400**
Cooling capacity	Watt	28341	35258	42204
	Btu/h	96700	120300	144000
Heating capacity	Watt	28517	35610	42614
	Btu/h	97300	121500	145400
Power Consumption - cooling	Watt	11500	14000	17000
Power Consumption - Heating	Watt	11000	13300	16100
Operating Current (cooling/Heating) See note 3	Amp	19.3/18.5	23.5/22.3	28.6/27.1
E.E.R - Energy Efficiency Ratio	Cooling	8.4	8.6	8.47
C.O.P - Coefficient Of Performance	Heating	2.6	2.67	2.64
Refrigerant Charge	gr.	8100	10000	12000
Moisture Removal	Lit/h	11.7	14.6	16
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Condensate Lines - Drain	Φ-mm (in)	28 (1⅛")		
Time Delay Fuse	Amp.	3xC-32	3xC-40	3xC-40

R407c				
Model		**CU1000**	**CU1200**	**CU1400**
Cooling capacity	Watt	27842	34583	41324
	Btu/h	95000	118000	141000
Heating capacity	Watt	28000	34500	41500
	Btu/h	95540	117700	141600
Power Consumption - cooling	Watt	11300	13800	16700
Power Consumption - Heating	Watt	11100	13000	15800
Operating Current (cooling/Heating) See note 3	Amp	19.1/18.6	23.2/21.8	28.0/26.5
E.E.R - Energy Efficiency Ratio	Cooling	8.4	8.55	8.44
C.O.P - Coefficient Of Performance	Heating	2.52	2.65	2.62
Refrigerant Charge	gr.	8200	10200	120300
Moisture Removal	Lit/h	11.7	14.6	16
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Condensate Lines - Drain	Φ-mm (in)	28 (1⅛")		
Time Delay Fuse	Amp.	3xC-32	3xC-40	3xC-40

Notes:
1. Nominal cooling capacity based on indoor air temp. 27ºC db/19.5ºC wb and outdoor air temp. 35ºC db/24º wb.
2. Nominal heating capacity based on indoor air temp. 21ºC db and outdoor air temp. 7.5ºC db/6.1ºC wb.
3. Operating current at the most loaded phase.

2.5.2 Outdoor Unit Data – Models CU1000, CU1200, CU1400



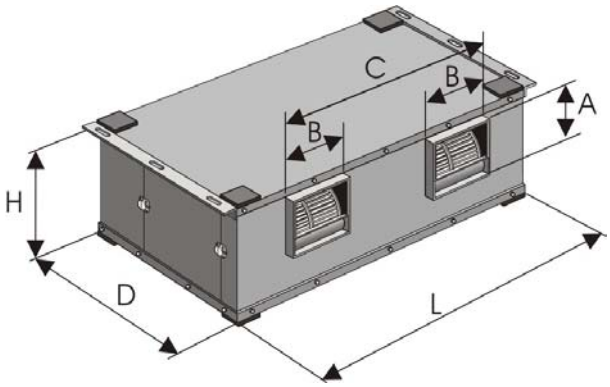
Model			CU1000	CU1200	CU1400
Casing color			RAL 7032	RAL 7032	RAL 7032
Dimensions (LxDxH)		mm	1700x830x1000	1700x830x1000	1700x830x1150
Air flow (at high speed)		m^3/h	16150	15300	15300
		cfm	9500	9000	9000
Noise Level (see note 1)		dbA	75	75	75
Fittings		Type	Flare	Soldering	Soldering
Expansion Device			Expansion valve	Expansion valve	Expansion valve
Axial Fan Diameter/No.		mm	630/2	630/2	630/2
Outdoor Fan Motor		KW	2x0.66	2x0.66	2x0.66
Motor Capacitor		µF/Volt	N/A	N/A	N/A
Speed (High/Low)		R.P.M	900/700	900/700	900/700
Coil	Face Area	m^2/ ft^2	1.82/19.7	1.82/19.7	1.82/19.7
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		2	3	4
	Fins Spacing	Per Inch	12	12	12
Net Weight		Kg.	250	283	305

Notes:
1. Noise level measured at a 4 m. distance in free field.

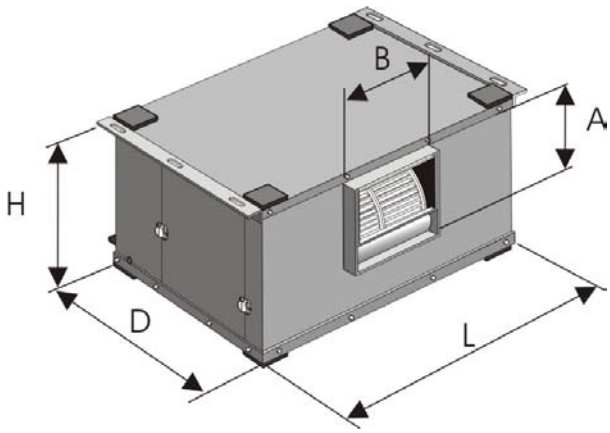
2.5.3 Indoor Unit Data - Models CU1000, CU1200, CU1400

Indoor Unit			CU1000-A	CU1000-C	CU1200-A	CU1400-A
Dimensions (LxDxH)		mm	1500x700x480	1300x800x580	1600x800x550	1600x800x660
Supply Air Duct Dim. (A, B, C)		mm	295, 335, 970	345, 400	345, 400, 1190	345, 400, 1190
Return Air Duct Dim. (WidexHigh)		mm	1300x457	1065x560	1400x533	1400x635
High Fan Speed (Number of Speeds)		R.P.M	900 (3)	900 (3)	900 (3)	900 (3)
Air Flow (at High speed)		m^3/h	5440	4760	6800	8160
		cfm	3200	2800	4000	4800
Noise Level (see note 1)		dbA	41	42	43	43
Net Static Pressure (see note 2)		mm H_2O	14	14	20	18
Indoor Fan Motor		KW	2x0.37	0.56	2x0.56	2x0.56
Number of Fans			2	1	2	2
Fan Type and Model			Centrifugal DD10-10-370W	Centrifugal DD12-12-550W	Centrifugal DD12-12-550W	Centrifugal DD12-12-550W
Full Load Amperage		Amp.	2x2.6	4.6	2x4.6	2x4.6
Motor Capacitor		µF/V	2x8/400	15/400	2x15/400	15/400
Coil	Face Area	m^2/ ft^2	0.59/6.37	0.59/6.37	0.75/8.1	0.89/9.61
	Tube Diameter	Inch	3/8"	3/8"	3/8"	3/8"
	Rows Deep		4	4	4	4
	Fins Spacing	Per Inch	12	12	12	12
Air Filter			1 Removable and Washable Filter			
Net Weight		Kg.	117	120	136	143

Notes:
1. Noise level at fan high speed, measured at a 4 m. distance in free field.
2. Net static pressure available at fan discharge at nominal capacity.



Indoor Unit Type A



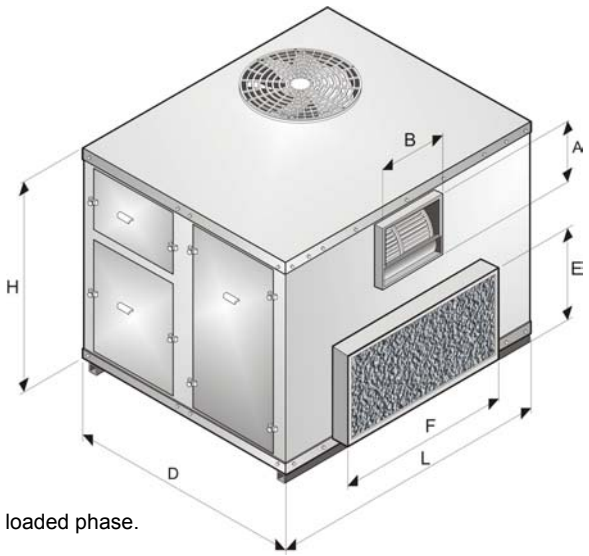
Indoor Unit Type C

NOTES

3. CU Series Packaged Units

Designed for outdoor installation, UNIQUE CU Packaged Units (designated CUP) feature eleven sizes of self contained, pre assembled and fully wired air conditioners.

3.1 Packages CUP350…CUP500



3.1.1 Performance

Notes:
1. Nominal cooling capacity based on indoor air temp.
   27ºC db/19.5ºC wb and outdoor air temp. 35ºC db/24º wb.
2. Nominal heating capacity based on indoor air temp.
   21ºC db and outdoor air temp. 7.5ºC db/6.1ºC wb.
3. Operating current models CUP350 and CUP400: for 230V, 1Ph.
   Operating current models CUP450…CUP500 measured at the most loaded phase.

R22						
Model		**CUP350**	**CUP400**	**CUP450**	**CUP480**	**CUP500**
Cooling capacity	Watt	9965	11284	13189	14009	14654
	Btu/h	34000	38500	45000	47800	50000
Heating capacity	Watt	10111	11430	13335	14185	15533
	Btu/h	34500	39000	45500	48400	53000
Power Consumption - cooling	Watt	3470	4410	5060	5330	5730
Power Consumption - Heating	Watt	3260	4155	4760	4770	5350
Operating Current (cooling/Heating)	Amp	17.6/16.6	20.8/19.6	9.2/8.4	11.2/10.4	12.1/11.3
E.E.R - Energy Efficiency Ratio	Cooling	9.8	8.7	8.9	9.0	8.7
C.O.P - Coefficient Of Performance	Heating	3.1	2.8	2.8	3.0	2.9
Moisture Removal	Lit/h	4.2	4.8	5.9	6.7	6.9
Power Supply	V/Ph/Hz	230V, 1Ph, 50Hz or 400V, 3Ph, 50Hz		400V, 3Ph, 50Hz		
Time Delay Fuse	Amp.	C-20 or 3xC-10	C-25 or 3xC-16	3xC-16	3xC-16	3xC-16

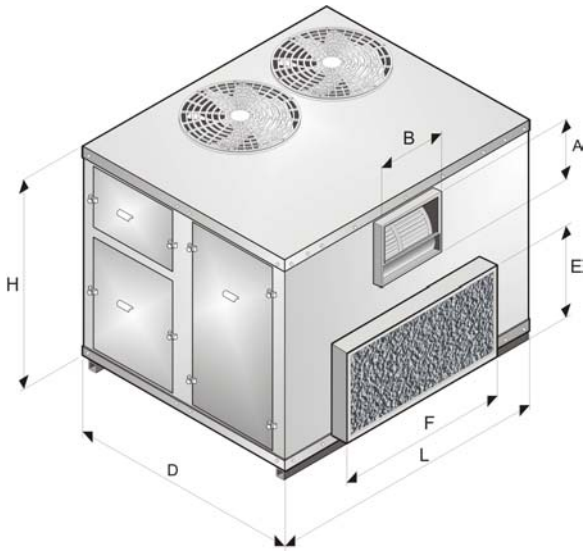
R407C						
Model		**CUP350**	**CUP400**	**CUP450**	**CUP480**	**CUP500**
Cooling capacity	Watt	9730	11137	12896	13745	14390
	Btu/h	33200	38000	44000	46900	49100
Heating capacity	Watt	9710	10980	12820	13700	14920
	Btu/h	33130	37500	43740	46750	50910
Power Consumption - cooling	Watt	3460	4380	5000	5300	5700
Power Consumption - Heating	Watt	3195	4070	4700	4750	5250
Operating Current (cooling/Heating)	Amp	16.3/15.1	20.7/19.2	8.3/7.8	8.8/7.9	9.4
E.E.R - Energy Efficiency Ratio	Cooling	9.76	8.67	8.8	8.84	8.6
C.O.P - Coefficient Of Performance	Heating	3.0	2.7	2.72	2.88	2.84
Moisture Removal	Lit/h	4.2	4.8	5.9	6.7	6.9
Power Supply	V/Ph/Hz	230V, 1Ph, 50Hz or 400V, 3Ph, 50Hz		400V, 3Ph, 50Hz		
Time Delay Fuse	Amp.	C-20 or 3xC-10	C-25 or 3xC-16	3xC-16	3xC-16	3xC-16

3.1.2 Technical Data

Model			CUP350	CUP400	CUP450	CUP480	CUP500
GENERAL							
Dimensions	LxDxH	mm	1080x1100x850	1080x1100x850	1200x1100x850	1200x1100x850	1200x1150x1030
	A	mm	265	265	265	265	295
	B	mm	305	305	305	340	335
	E	mm	380	380	380	380	460
	F	mm	555	655	755	755	785
Condensate Lines - Drain		Φ-mm (in)	19 (3/4")	19 (3/4")	19 (3/4")	19 (3/4")	19 (3/4")
Noise Level (see note 1)		dbA	46	47	47	48	50
Net Weight		Kg.	135	151	167	175	189
CONDENSER SIDE							
Air flow (at high speed)		m^3/h	3910	4250	4760	5100	5780
		cfm	2300	2500	2800	3000	3400
Axial Fan Diameter		mm	500	500	500	500	550
Number of Fans			1	1	1	1	1
Speed (High/Low)		R.P.M	900/700	900/700	900/700	900/700	900/700
Condenser Coil	Face Area	m^2/ ft^2	0.44/4.75	0.44/4.75	0.51/5.5	0.72/7.8	0.72/7.8
	Tube Diameter	Inch	3/8"	3/8"	3/8"	3/8"	3/8"
	Rows Deep		3	4	4	3	4
	Fins Spacing	Per Inch	12	12	12	12	12
EVAPORATOR SIDE							
Air Flow (at High speed)		m^3/h	1870	2295	2550	2720	2975
		cfm	1100	1350	1500	1600	1750
High Fan Speed		R.P.M	900	900	900	900	900
Number of Speeds			3	3	3	3	3
Net Static Pressure (see note 2)		mm H_2O	7	6	6	6	13
Number of Fans			1	1	1	1	1
Fan Type and Model		Centrifugal	DD9-9-245W	DD9-9-370W	DD9-9-370W	DD9-10-370W	DD10-10-550W
Evaporator Coil	Face Area	m^2/ ft^2	0.20/2.16	0.24/2.59	0.27/2.92	0.27/2.92	0.34/3.67
	Tube Diameter	Inch	3/8"	3/8"	3/8"	3/8"	3/8"
	Rows Deep		4	4	4	5	4
	Fins Spacing	Per Inch	12	12	12	12	12

Notes:
1. Noise level measured at a 4 m. distance in free field.
2. Net static pressure available at fan discharge at nominal capacity.

3.2 Packages CUP600…CUP800



3.2.1 Performance

Notes:
1. Nominal cooling capacity based on indoor air temp. 27ºC db/19.5ºC wb and outdoor air temp. 35ºC db/24º wb.
2. Nominal heating capacity based on indoor air temp. 21ºC db and outdoor air temp. 7.5ºC db/6.1ºC wb.
3. Operating current measured at the most loaded phase.

R22				
Model		**CUP600**	**CUP700**	**CUP800**
Cooling capacity	Watt	17585	21102	24619
	Btu/h	60000	72000	84000
Heating capacity	Watt	17790	21249	24912
	Btu/h	60700	72500	85000
Power Consumption - cooling	Watt	6520	8000	8790
Power Consumption - Heating	Watt	6130	7100	8500
Operating Current (cooling/Heating)	Amp	14.2/14	18/17.6	20/19.3
E.E.R - Energy Efficiency Ratio	Cooling	9.2	9.0	9.5
C.O.P - Coefficient Of Performance	Heating	2.9	3.0	2.9
Moisture Removal	Lit/h	7.8	8.8	10.2
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Time Delay Fuse	Amp.	3xC-20	3xC-25	3xC-32

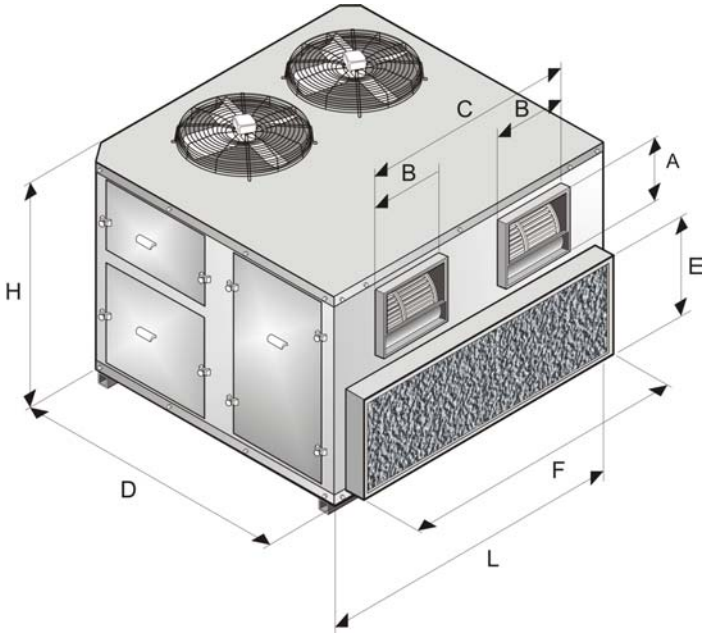
R407C				
Model		**CUP600**	**CUP700**	**CUP800**
Cooling capacity	Watt	17291	20515	24180
	Btu/h	59000	70000	82500
Heating capacity	Watt	17410	20650	24200
	Btu/h	59400	70500	82570
Power Consumption - cooling	Watt	6480	7920	8730
Power Consumption - Heating	Watt	6100	7300	8500
Operating Current (cooling/Heating)	Amp	13.8/13.0	17.7/17.3	18.8/18.2
E.E.R - Energy Efficiency Ratio	Cooling	9.1	8.83	9.45
C.O.P - Coefficient Of Performance	Heating	2.85	2.82	2.85
Moisture Removal	Lit/h	7.8	8.8	10.2
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Time Delay Fuse	Amp.	3xC-20	3xC-25	3xC-32

3.2.2 Technical Data

Model			CUP600	CUP700	CUP800
GENERAL					
Dimensions	LxDxH	mm	1650x1150x1030	1650x1350x1130	1650x1350x1130
	A	mm	295	345	345
	B	mm	335	400	400
	E	mm	460	510	510
	F	mm	885	915	1058
Condensate Lines - Drain		Φ-mm (in)	22 (7/8")	22 (7/8")	22 (7/8")
Noise Level (see note 1)		dbA	52	54	54
Net Weight		Kg.	260	280	305
CONDENSER SIDE					
Air flow (at high speed)		m^3/h	8500	10200	11900
		cfm	5000	6000	7000
Axial Fan Diameter		mm	500	550	550
Number of Fans			2	2	2
Speed (High/Low)		R.P.M	900/700	900/700	900/700
Condenser Coil	Face Area	m^2/ ft^2	0.85/9.18	0.85/9.18	0.98/10.58
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		3	4	4
	Fins Spacing	Per Inch	12	12	12
EVAPORATOR SIDE					
Air Flow (at High speed)		m^3/h	3400	4080	4760
		cfm	2000	2400	2800
High Fan Speed		R.P.M	900	900	900
Number of Speeds			3	3	3
Net Static Pressure (see note 2)		mm H_2O	13	18	8
Number of Fans			1	1	1
Fan Type and Model		Centrifugal	DD10-10-550W	DD12-12-550W	DD12-12-550W
Evaporator Coil	Face Area	m^2/ ft^2	0.39/4.21	0.45/4.86	0.52/5.62
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		4	4	4
	Fins Spacing	Per Inch	12	12	12

Notes:
1. Noise level measured at a 4 m. distance in free field.
2. Net static pressure available at fan discharge at nominal capacity.

3.3 Packages CUP1000…CUP1400



3.3.1 Performance

Notes:
1. Nominal cooling capacity based on indoor air temp. 27ºC db/19.5ºC wb and outdoor air temp. 35ºC db/24º wb.
2. Nominal heating capacity based on indoor air temp. 21ºC db and outdoor air temp. 7.5ºC db/6.1ºC wb.
3. Operating current measured at the most loaded phase.

R22				
Model		**CUP1000**	**CUP1200**	**CUP1400**
Cooling capacity	Watt	28341	35258	42204
	Btu/h	96700	120300	144000
Heating capacity	Watt	28517	35610	42614
	Btu/h	97300	121500	145400
Power Consumption - cooling	Watt	10600	13500	16000
Power Consumption - Heating	Watt	10000	12900	15220
Operating Current (cooling/Heating)	Amp	19.9/19.6	23.1/22.8	26.8/26.4
E.E.R - Energy Efficiency Ratio	Cooling	9.1	8.9	9.0
C.O.P - Coefficient Of Performance	Heating	2.9	2.8	2.8
Moisture Removal	Lit/h	11.7	14.6	16
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Time Delay Fuse	Amp.	3xC-32	3xC-40	3xC-40

R407C				
Model		**CUP1000**	**CUP1200**	**CUP1400**
Cooling capacity	Watt	27842	34583	41324
	Btu/h	95000	118000	141000
Heating capacity	Watt	28000	34500	41500
	Btu/h	95540	117700	14160
Power Consumption - cooling	Watt	10500	13400	15900
Power Consumption - Heating	Watt	9830	12650	14950
Operating Current (cooling/Heating)	Amp	19.5/19.3	22.8/22.4	26.3/26.0
E.E.R - Energy Efficiency Ratio	Cooling	9.04	8.8	8.86
C.O.P - Coefficient Of Performance	Heating	2.85	2.72	2.77
Moisture Removal	Lit/h	11.7	14.6	16
Power Supply	V/Ph/Hz	400V, 3Ph, 50Hz		
Time Delay Fuse	Amp.	3xC-32	3xC-40	3xC-40

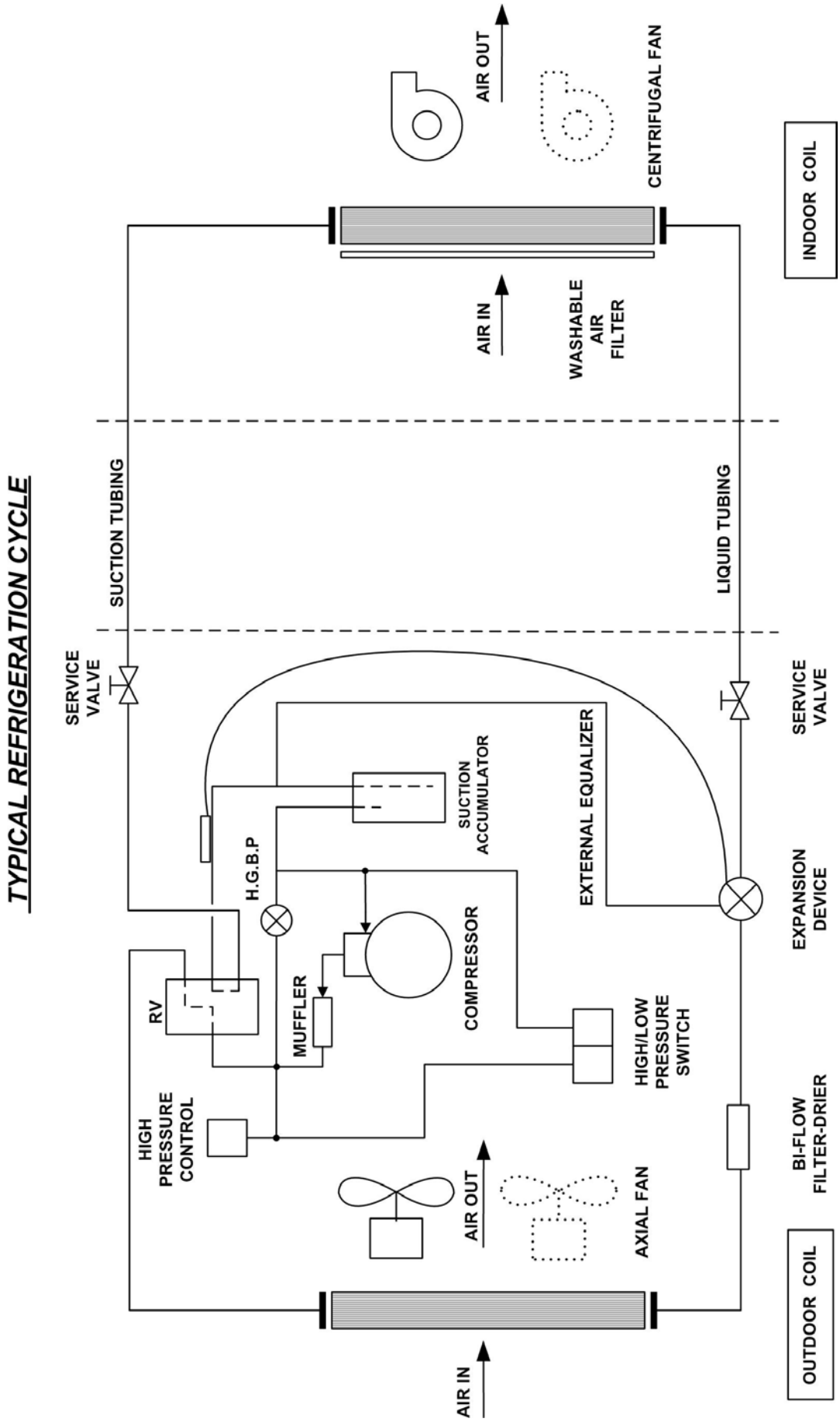
3.3.2 Technical Data

Model			CUP1000	CUP1200	CUP1400
GENERAL					
Dimensions	LxDxH	mm	1700x1500x1150	1700x1500x1150	1700x1500x1250
	A	mm	295	345	345
	B	mm	335	400	400
	C	mm	1010	1114	1114
	E	mm	460	533	635
	F	mm	1335	1435	1435
Condensate Lines - Drain		Φ-mm (in)	28 (1⅛")	28 (1⅛")	28 (1⅛")
Noise Level (see note 1)		dbA	75	75	75
Net Weight		Kg.	410	460	505
CONDENSER SIDE					
Air flow (at high speed)		m^3/h	16150	15300	15300
		cfm	9500	9000	9000
Axial Fan Diameter		mm	630	630	630
Number of Fans			2	2	2
Speed (High/Low)		R.P.M	900/700	900/700	900/700
Condenser Coil	Face Area	m²/ ft²	1.84/19.87	1.86/20.1	1.87/20.2
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		2	3	4
	Fins Spacing	Per Inch	12	12	12
EVAPORATOR SIDE					
Air Flow (at High speed)		m^3/h	5440	6800	8160
		cfm	3200	4000	4800
High Fan Speed		R.P.M	900	900	900
Number of Speeds			3	3	3
Net Static Pressure (see note 2)		mm H_2O	14	20	18
Number of Fans			2	2	2
Fan Type and Model		Centrifugal	DD10-10-370W	DD12-12-550W	DD12-12-550W
Evaporator Coil	Face Area	m²/ ft²	0.59/6.37	0.75/8.1	0.89/9.61
	Tube Diameter	Inch	3/8"	3/8"	3/8"
	Rows Deep		4	4	4
	Fins Spacing	Per Inch	12	12	12

Notes:
1. Noise level measured at a 4 m. distance in free field.
2. Net static pressure available at fan discharge at nominal capacity.

NOTES

4.1 Typical Refrigeration Cycle

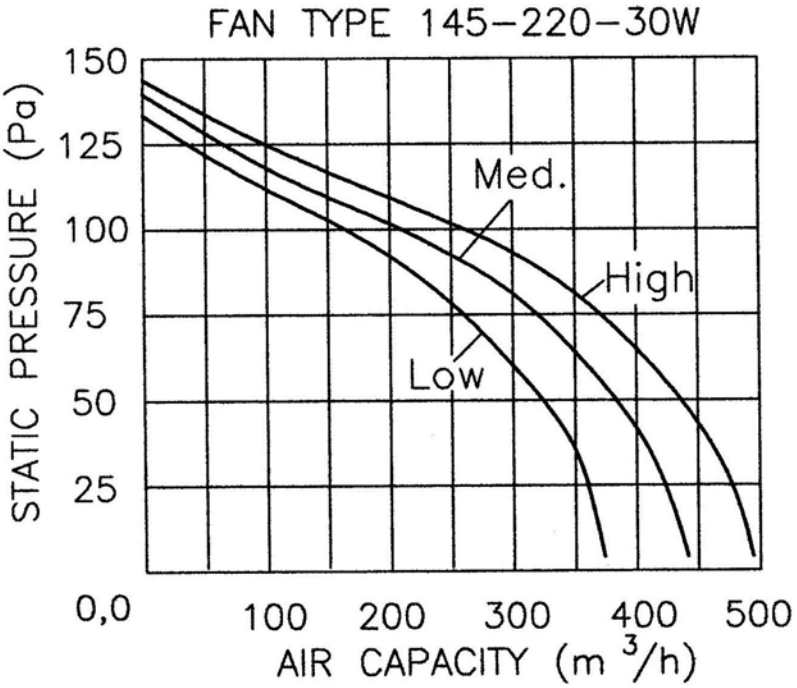


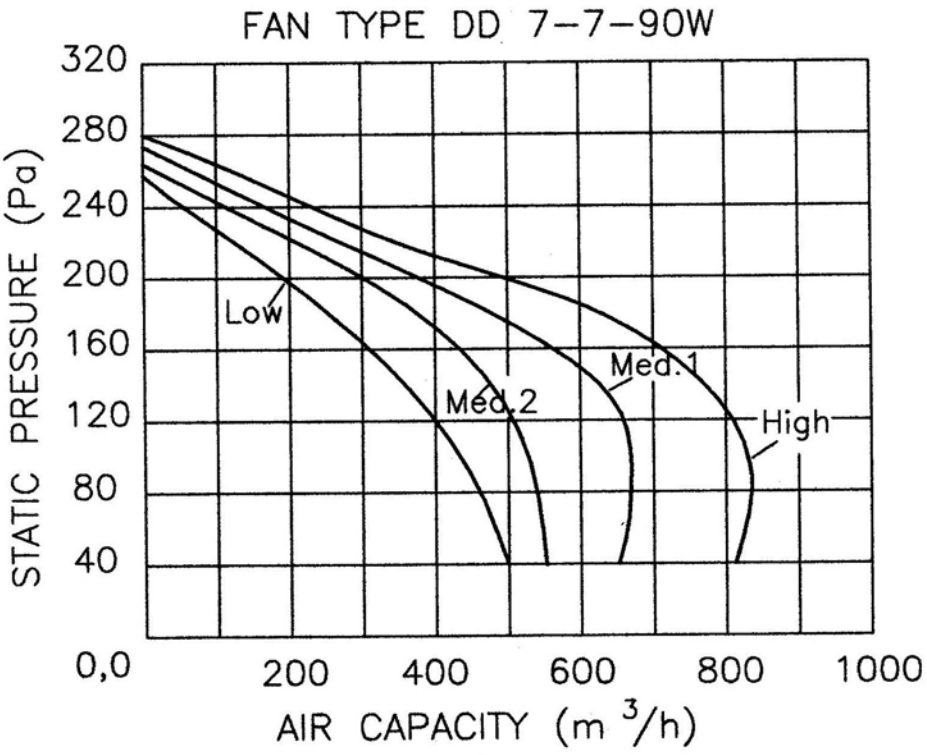
4.2 Accessories Options Chart

ITEM		MODEL			
		150-350	400-500	600-800	1000-1400
High Pressure Control		Optional	Optional	●	●
High/Low Pressure Switch		Optional	Optional	Optional	●
H.G.B.P (Hot Gas By-Pass)		Optional	Optional	Optional	Optional
Suction Accumulator		N/A	●	●	●
Expansion Device	Capillary Tube	●	●	●	N/A
	Thermal Exp. Valve	Optional	Optional	Optional	●
Bi Flow Filter Drier		Optional (see note)	Optional (see note)	Optional (see note)	●
RV (4- Way Reversing Valve)		●	●	●	●

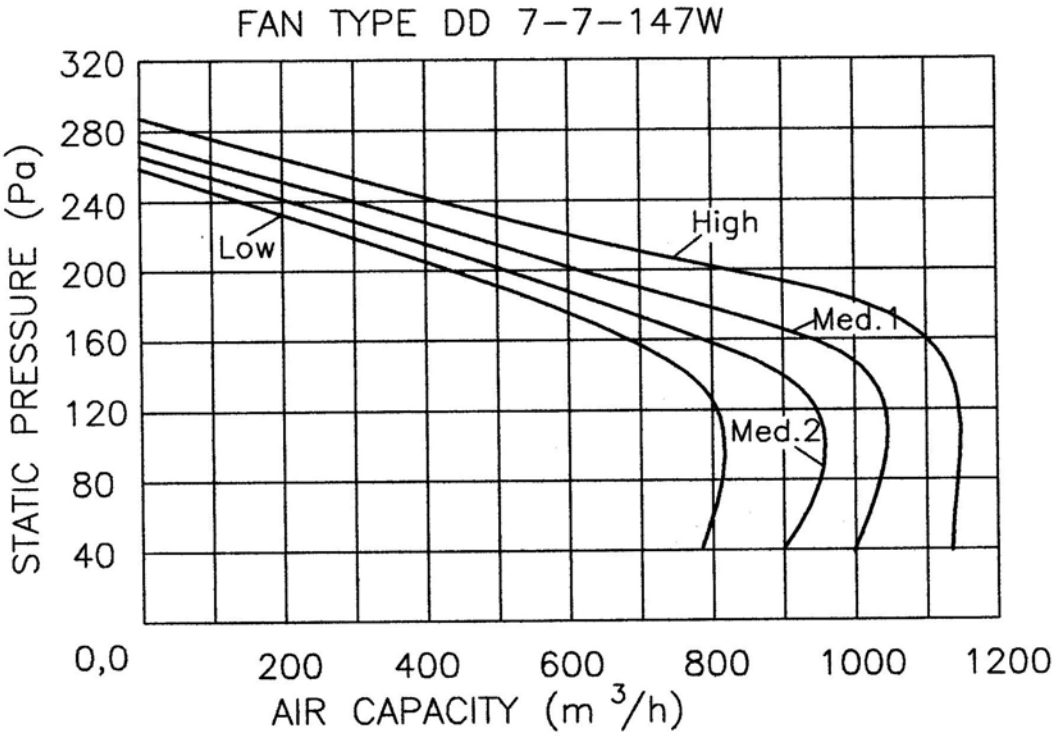
Note:
Bi Flow Filter Drier is optional for models CU-150 through CU-800 which are equipped with thermal expansion valve. It is not available for units equipped with capillary tube.

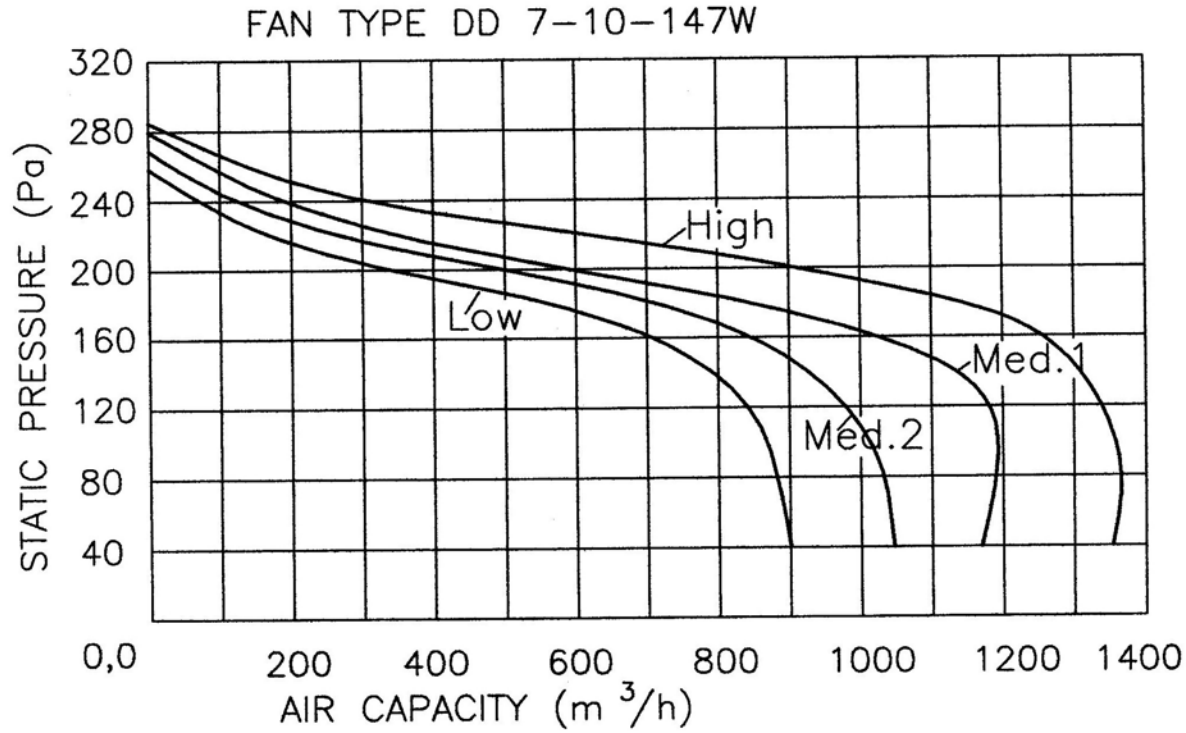
5.1 Air flow Curves – Fans 145-220-30W and DD 7-7-90W



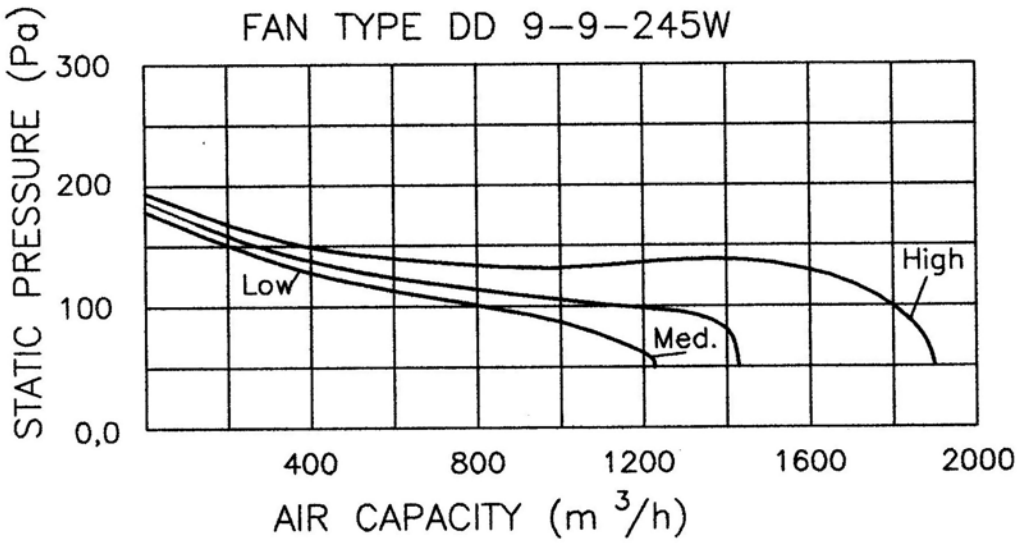


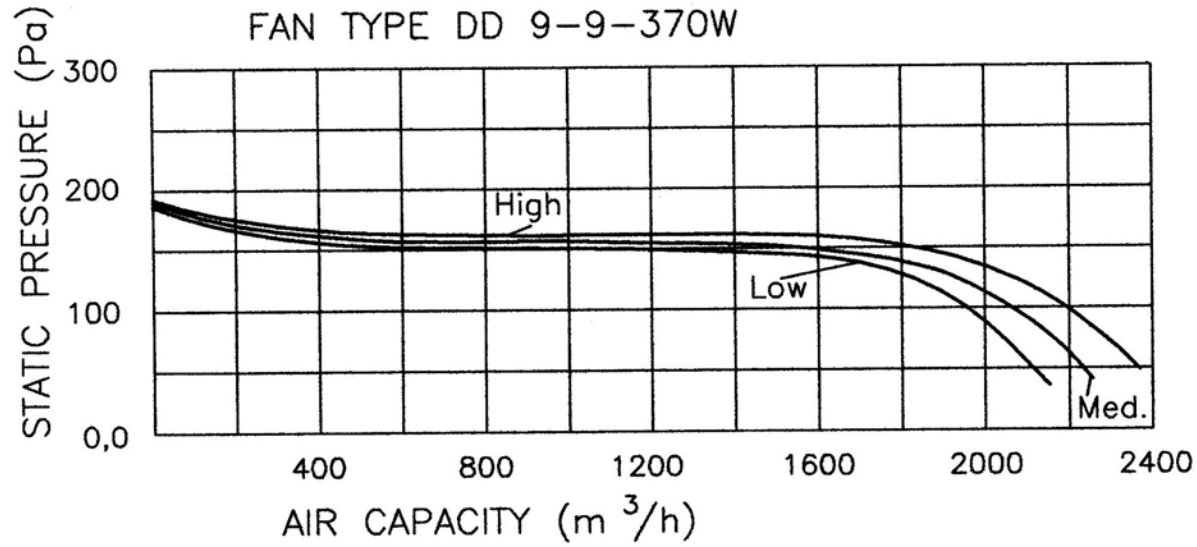
5.2 Air flow Curves – Fans DD 7-7-147W and DD 7-10-147W



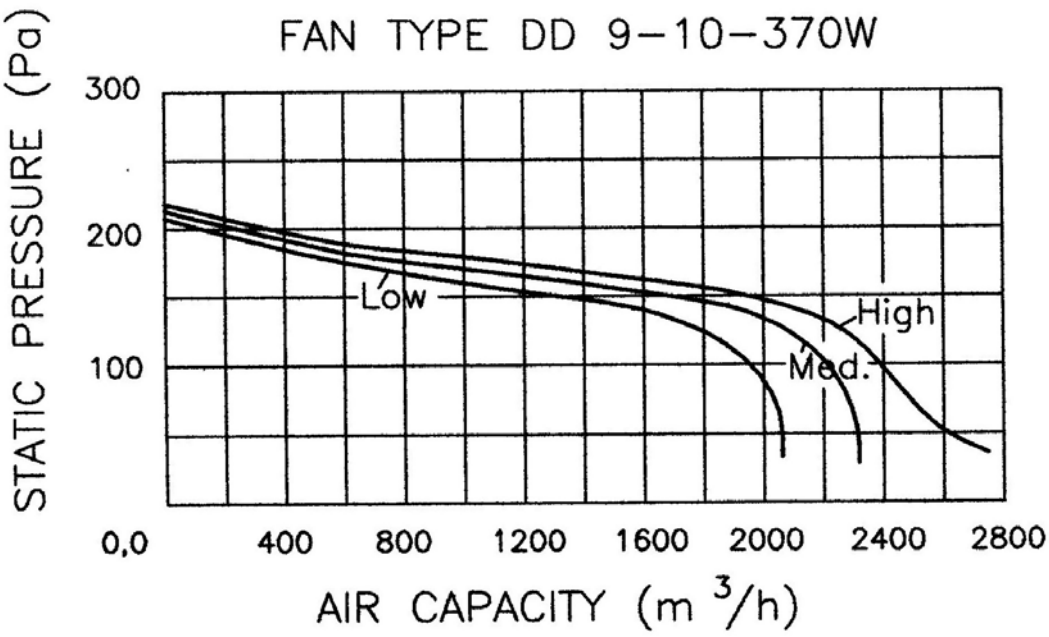


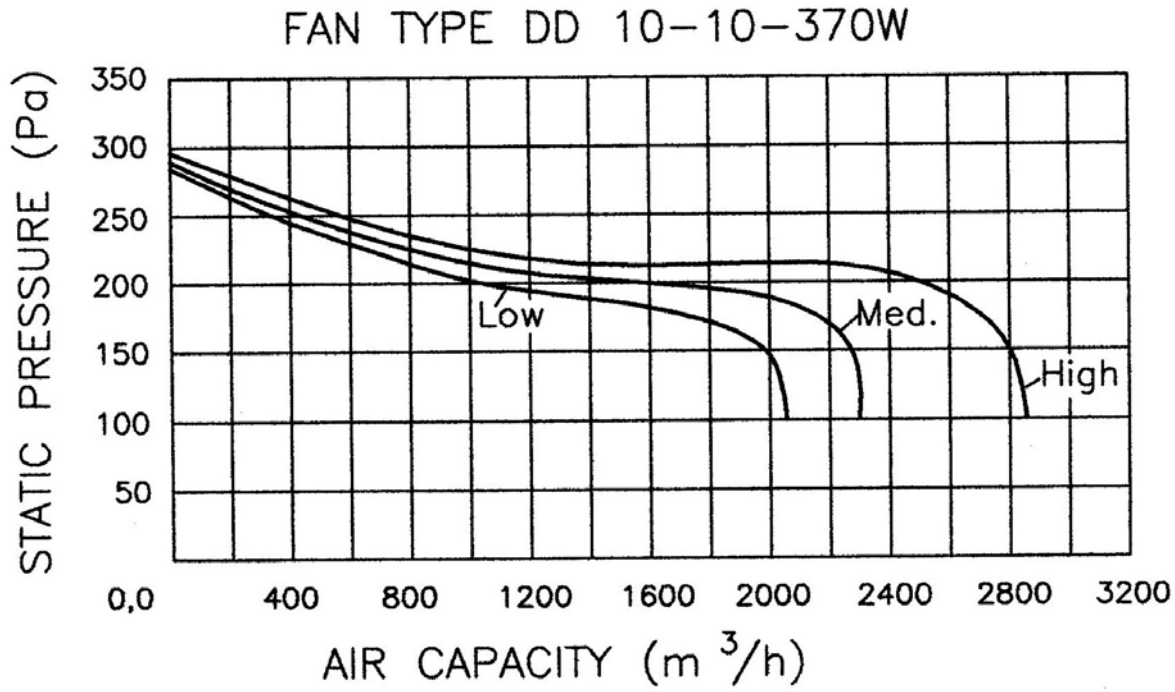
5.3 Air flow Curves – Fans DD 9-9-245W and DD 9-9-370W



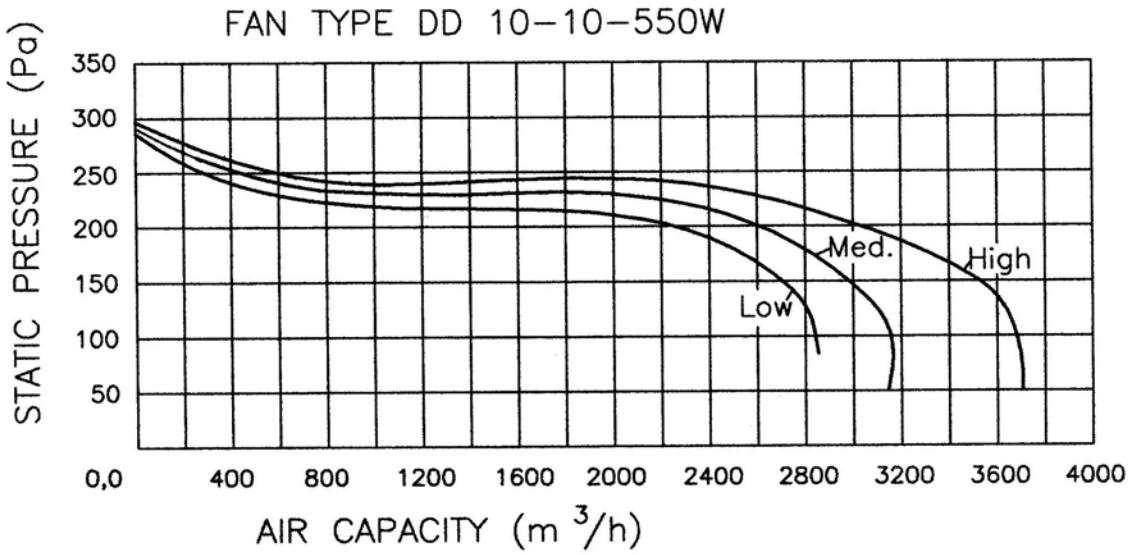


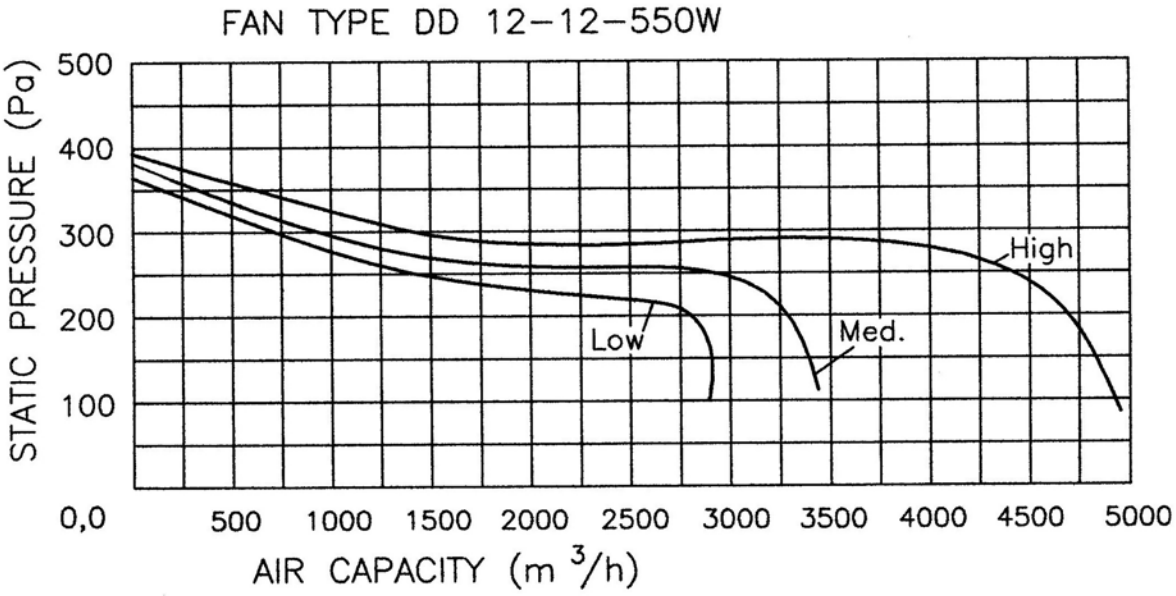
5.4 Air flow Curves – Fans DD 9-10-370W and DD 9-9-370W





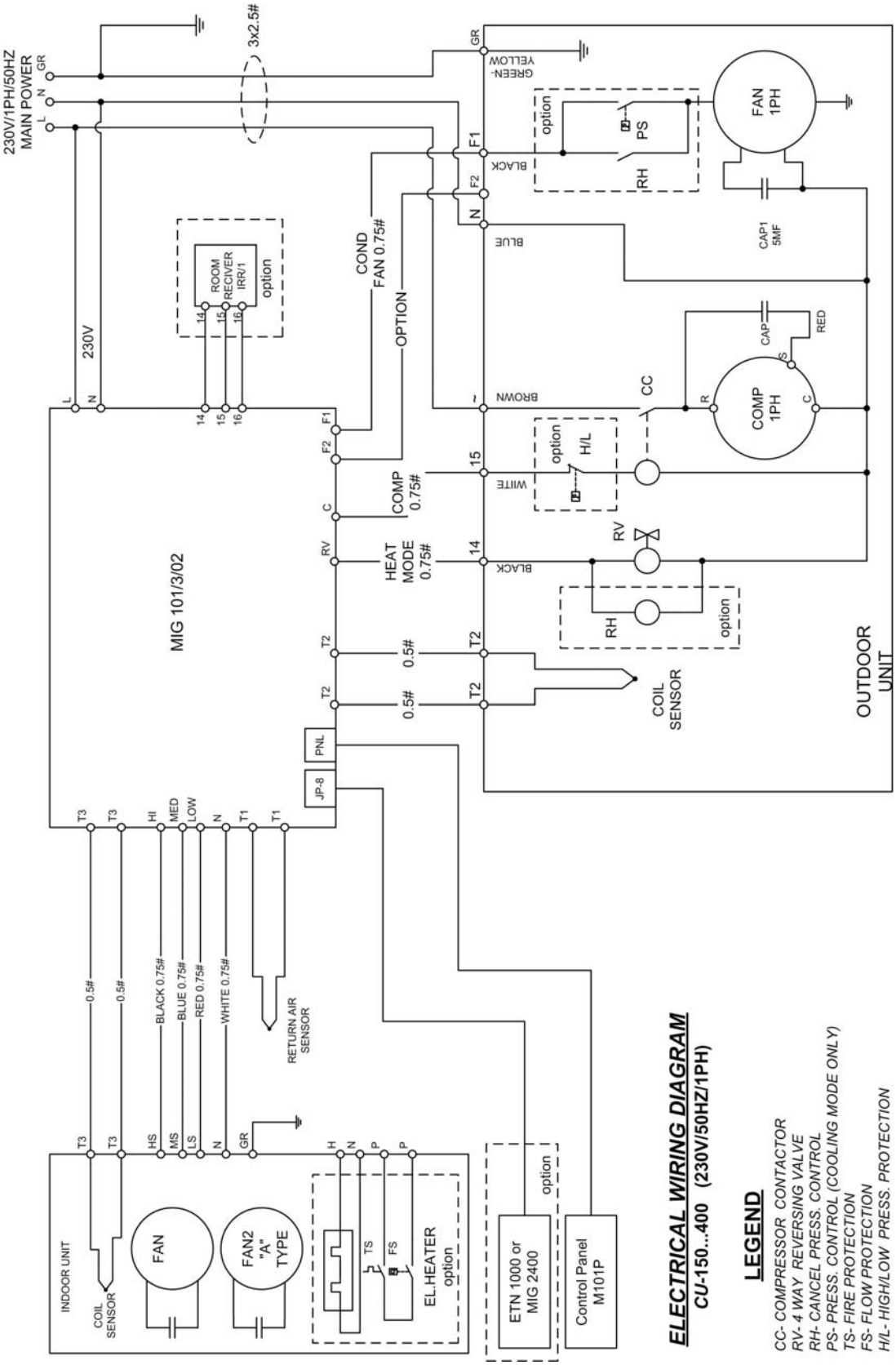
5.5 Air flow Curves – Fans DD 10-10-550W and DD 12-12-550W





NOTES

6.1 Electrical Wiring Diagram – CU150…400 – 1PH

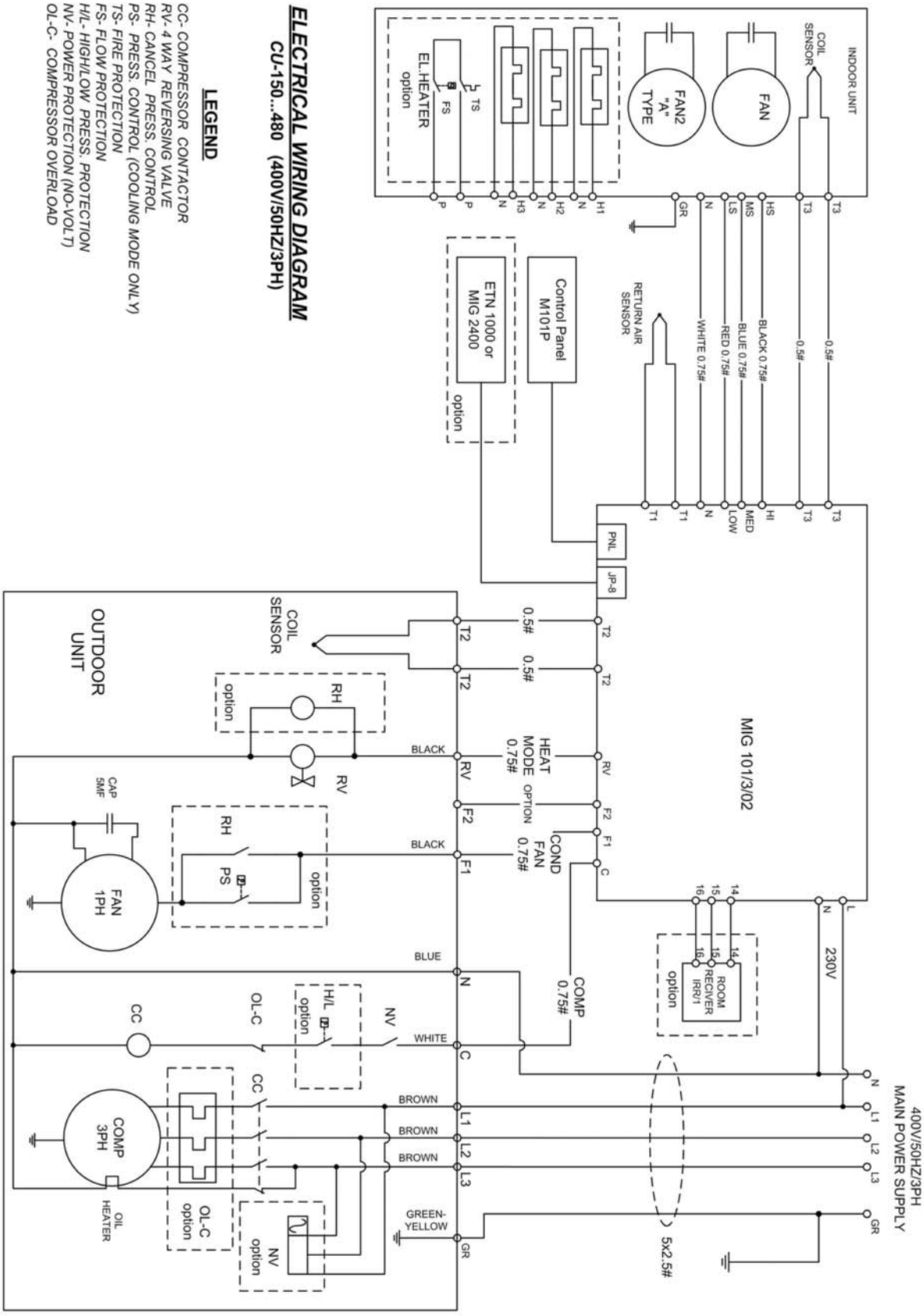


ELECTRICAL WIRING DIAGRAM
CU-150...400 (230V/50HZ/1PH)

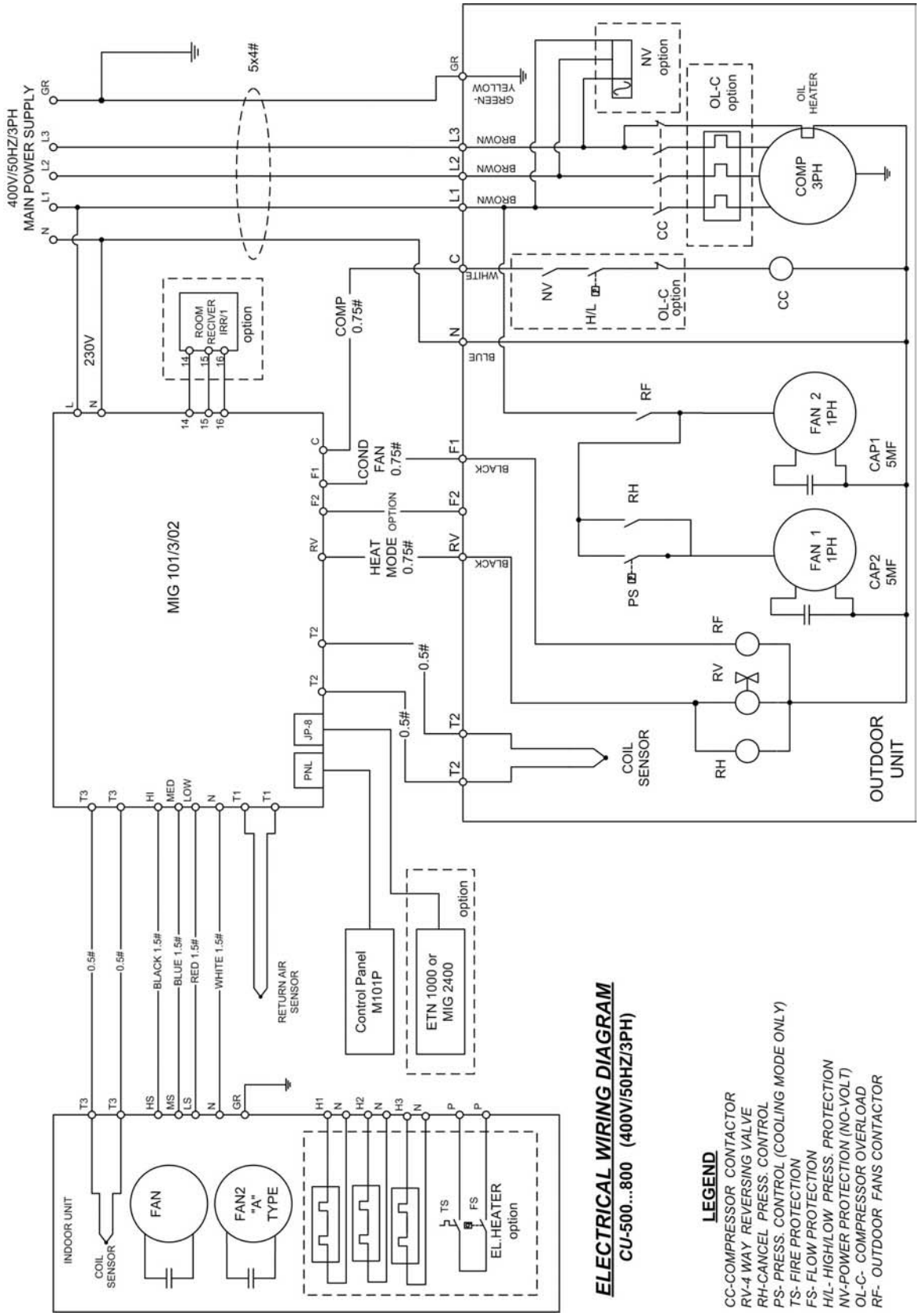
LEGEND

CC- COMPRESSOR CONTACTOR
RV- 4 WAY REVERSING VALVE
RH- CANCEL PRESS. CONTROL
PS- PRESS. CONTROL (COOLING MODE ONLY)
TS- FIRE PROTECTION
FS- FLOW PROTECTION
H/L- HIGH/LOW PRESS. PROTECTION

6.2 Electrical Wiring Diagram – CU150…480 – 3PH



6.3 Electrical Wiring Diagram – CU500…800 – 3PH

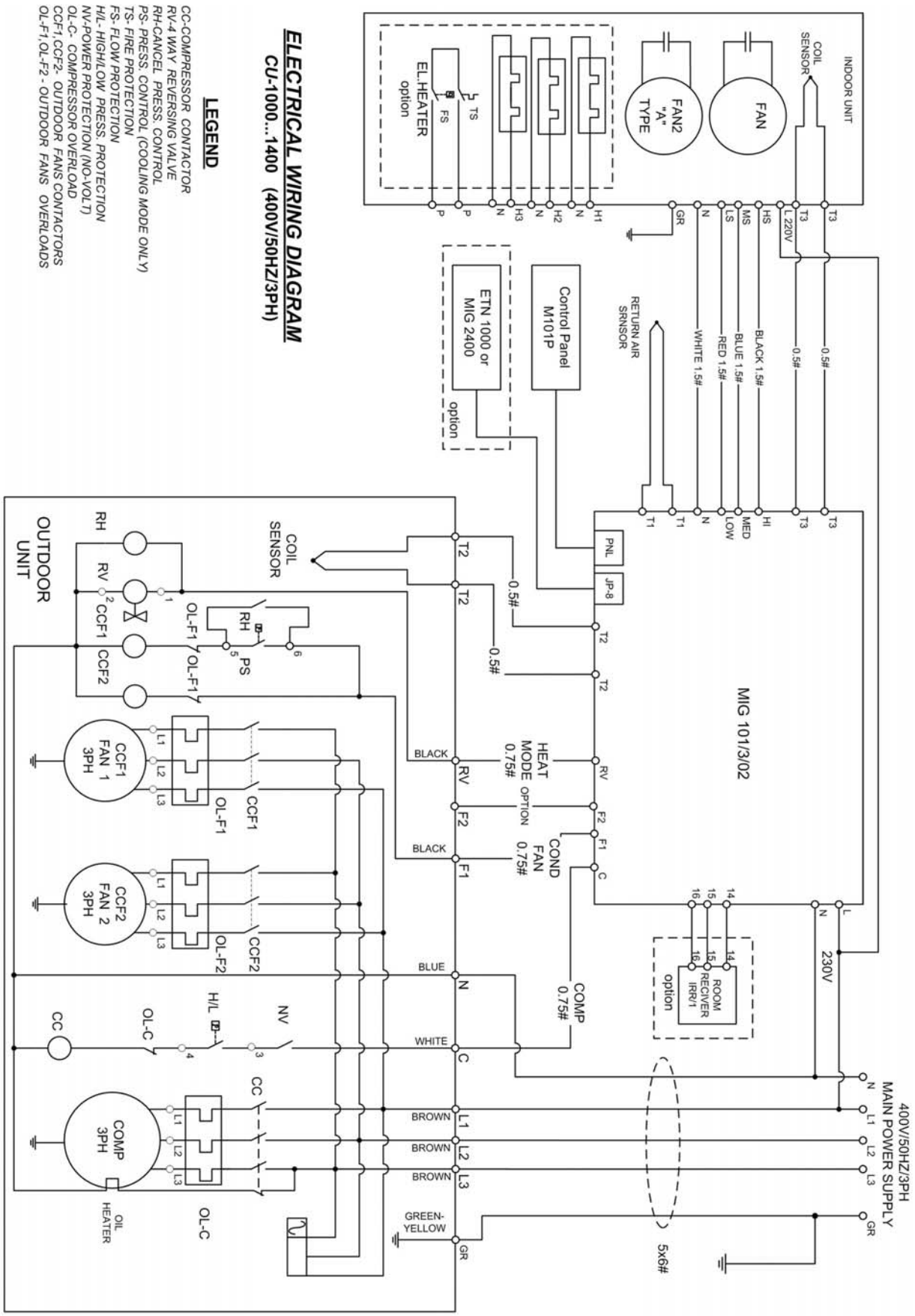


ELECTRICAL WIRING DIAGRAM
CU-500...800 (400V/50HZ/3PH)

LEGEND

CC-COMPRESSOR CONTACTOR
RV-4 WAY REVERSING VALVE
RH-CANCEL PRESS. CONTROL
PS- PRESS. CONTROL (COOLING MODE ONLY)
TS- FIRE PROTECTION
FS- FLOW PROTECTION
H/L- HIGH/LOW PRESS. PROTECTION
NV-POWER PROTECTION (NO-VOLT)
OL-C- COMPRESSOR OVERLOAD
RF- OUTDOOR FANS CONTACTOR

6.4 Electrical Wiring Diagram – CU1000…1400 – 3PH



7. INSTALATION INSTRUCTIONS

7.1 General

All parts and accessories are packed and shipped with appropriate measure to ensure that everything is protected during transportation.
The installation team must be familiar with the installation requirements, to exercise due care in handling and to prevent damage to the equipment.
The following instructions are in addition to and conform to any state and municipal regulations which may apply. These instructions do not cover all features concerning HVAC installation or methods of procedure.
The installation must be performed in accordance with manufacturer's specifications using only approved tubing, original cables and original accessories.

7.2 Standard Accessories

Adsorbtion cushions

User's manual

Rubber Syphon

Remote Control RT-01

Fig. 7-1

7.3 Electrical Requirements

- The electrical installation must be performed only by qualified personnel, in accordance with local regulations.
- The air conditioner must be directly connected to an appropriate power supply.
- Use only type "C" or type "G" fuses, as specified in the appropriate data table.
- Use only a single length power cable, without extensions.

NOTE: The compressor is equipped with oil heating element. Main circuit breaker and power supply must therefore always be ON.
If disconnected, make sure that power supply was ON at least 6 hours before starting the unit.

7.4 Typical CU Split System Installation

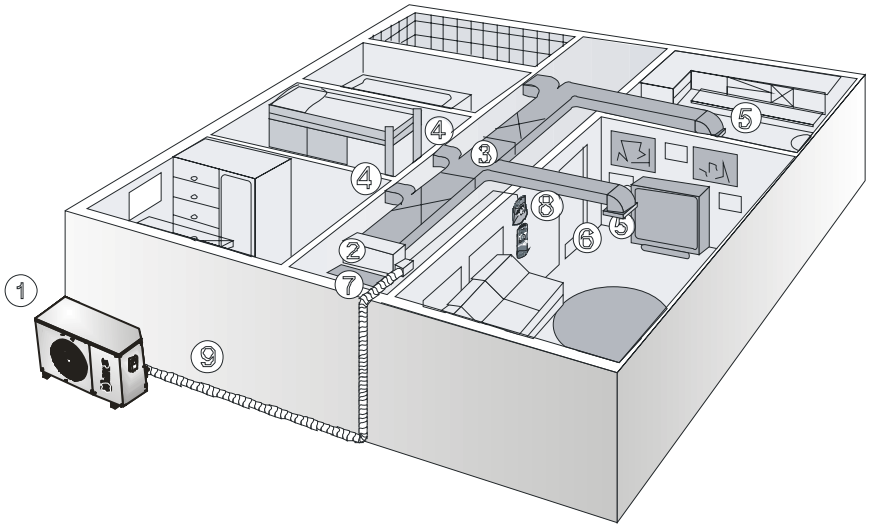


Fig. 7-2

1. Outdoor Unit (Condenser).
2. Indoor Unit (Evaporator).
3. Duct System.
4. Wall Air Diffusers.
5. Ceiling Air Diffusers.
6. Return Air Door Grill.
7. Return Air Intake Grill.
8. Control Unit.
9. Inter-Unit Piping and Wiring.

7.4.1 Indoor and Outdoor Unit Location

The indoor and outdoor units should be installed as close to each other as possible. Do not exceed the tubing length and height differences as shown in the accompanying table. See Fig.7-3 for additional information.

Model	Maximum Tubing Length	Maximum Height Difference Between Units
CU150	30 m	10 m
CU200-CU350	30 m	12 m
CU400-CU500	35 m	13 m
CU600-CU1000	40 m	15 m
CU1200-CU1400	40 m	15 m

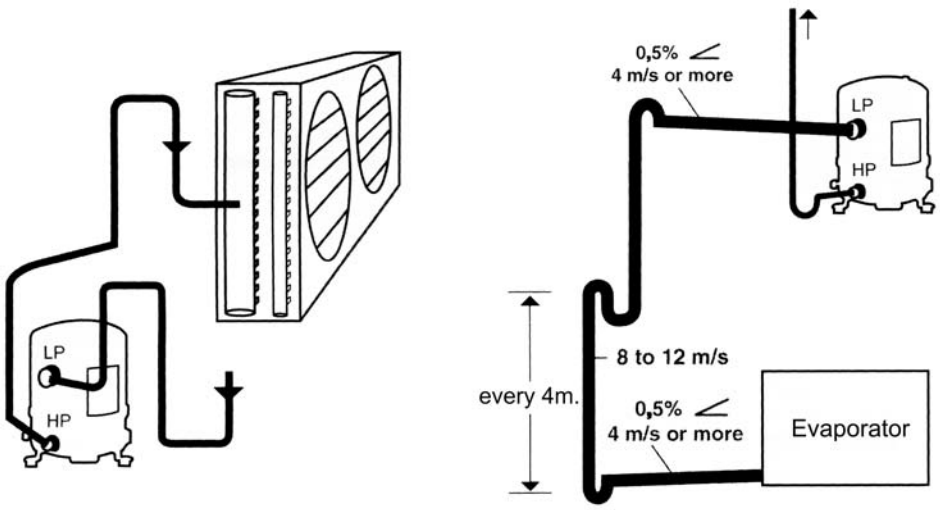


Fig. 7-3

7.5 Installing the Outdoor Unit

- Make sure to leave sufficient space around the unit. See figure 7-4 for minimum required distance between the unit and nearby walls.
- Install the unit in a location with convenient access for service and maintenance purposes.
- Protect the unit from any heat source.
- Prevent from any dust or strong wind installation sites.
- Position the unit in such a way to minimize motor noise which reaches the user and neighbors.
- The unit must be installed at least 5 cm. above a solid surface.
- Make sure that the unit is level.
- Fasten the unit legs to the base. Place the rubber absorbtion cushions (supplied) under the unit's legs to prevent vibrations.
- For all models, hanging installation is allowed. Install only on special properly designed platform or concrete slab.
- A drainage tube can be connected to the outdoor unit to remove condensation formed during heating mode operation.

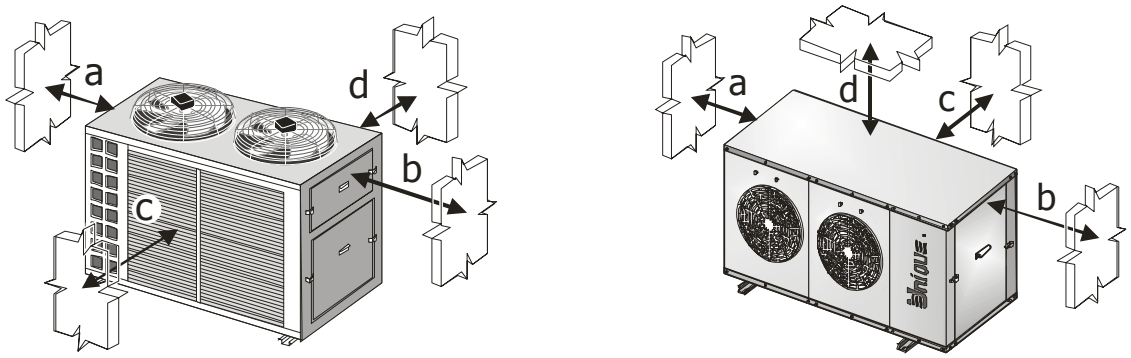


Fig. 7-4

Model	Minimum Distance			
	a mm	b mm	c mm	d mm
CU150-CU350	500	500	250	500
CU400-CU450	500	500	250	500
CU480-CU500	500	500	250	600
CU600-CU800	500	800	300	700
CU1000-CU1400	700	800	500	700

7.6 Installing the Indoor Unit

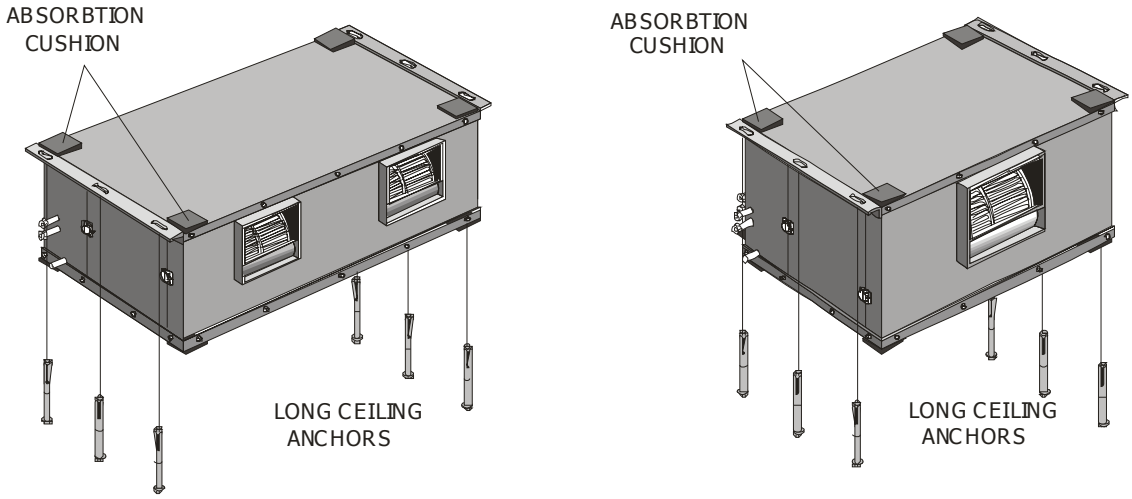


Fig. 7-5

- Overall and duct connecting dimensions are shown in the technical data tables.
- Allow free access to the service door, air filter and control box.
- Carefully plan the drainage tube path at a minimum slope of 2% avoiding sharp bends or oil traps.
- The indoor unit may be installed either hanging from the ceiling or resting on hard surface (i.e. concrete).
- Whenever possible, lead the indoor unit drainage tube to the outdoor unit.

7.6.1 Installing the Indoor Unit on Hard Surface

- Stick four rubber absorbtion cushions on the four corners of the base, as shown in Fig.7-5.
- Select the installation location according to the above mentioned factors and guidelines.

7.6.2 Installing the Indoor Unit Directly On the Ceiling

- Select the installation location according to the above mentioned factors and guidelines.
- Mark 4-6 holes on the ceiling, according to the unit's mounting bracket holes.
- If the ceiling is made of concrete, drill holes for the long ceiling anchors.
- Stick four rubber absorbtion cushions on the four corners of the base, as shown in Fig.7-5.
- Attach the unit to the ceiling using the long anchor screws, as shown in Figure 7-5.

7.6.3 Drilling a Hole in the Wall for Drainage and Inter-Unit Connections

- To make the connections between the indoor and outdoor units, a 70 mm hole should be drilled for the refrigerant lines, drainage hose and electrical cable passage, through the wall, as shown in Figure 7-6.
- Make sure to drill outwards and downwards, so that the opening in the outside wall is at least 10 mm lower than the opening on the inside.
- Route the drainage hose at the bottom of the hole.
- Fill in the remaining gap with an appropriate sealant.

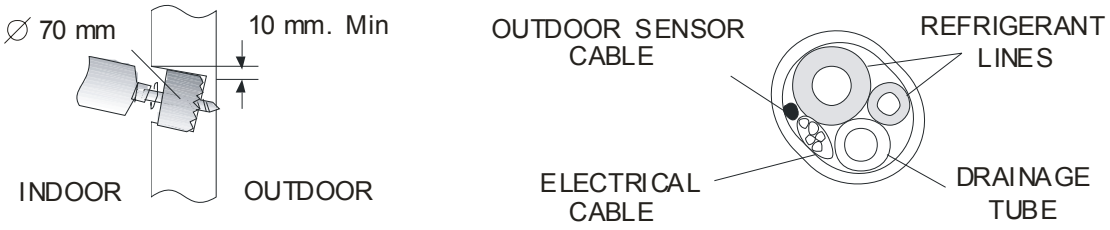


Fig. 7-6

7.7 Air Duct Installation

- The air ducts should be constructed of 0.7-0.8 mm galvanized metal sheet.
- To obtain optimal results, duct cross sections, connections, elbows and branches must be properly designed. We highly recommend seeking for expert advice on this matter.
- Air ducts should be properly insulated (preferably on the inside) with 50 mm thick fiberglass insulation having density of at least 24 Kg/m^3.
- See Figure 7-7 for general guidelines.

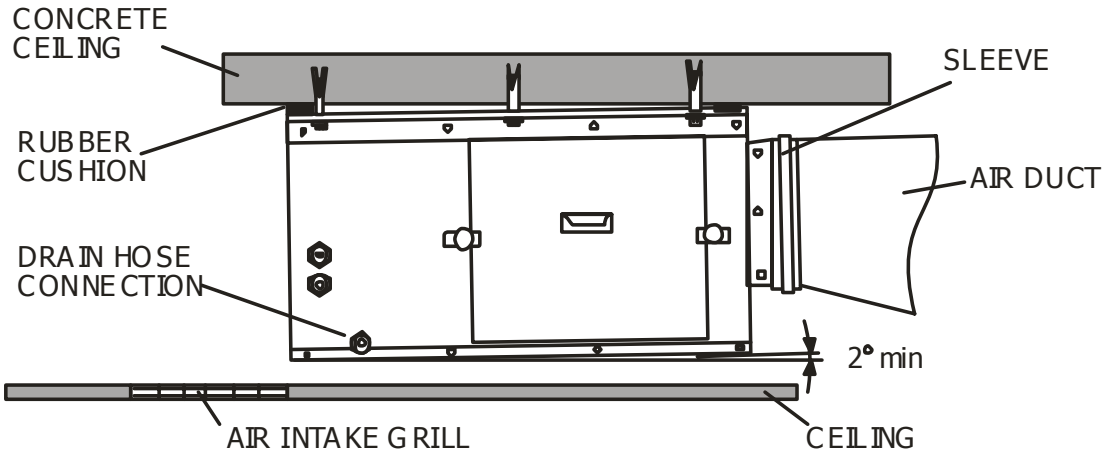


Fig. 7-7

7.8 Connecting the Drain Hose

Connect the rubber syphon to the drain hose connection. See Fig. 7-8 for details.

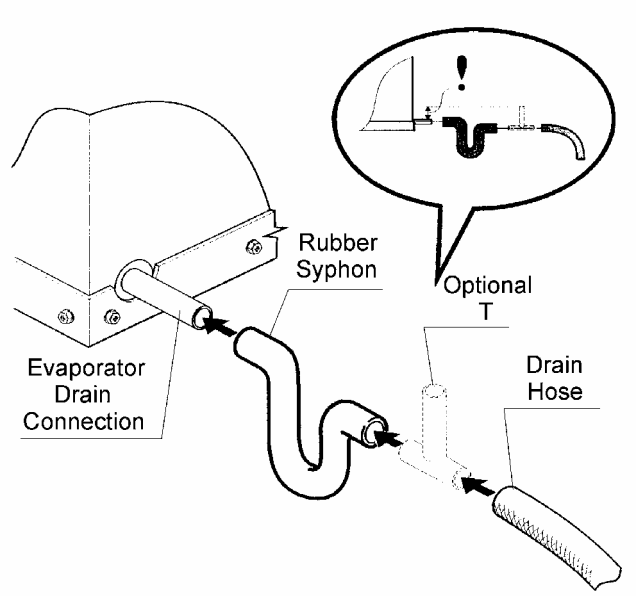


Fig. 7-8

7.9 Connecting the Refrigerant Lines and Refrigerant Charge

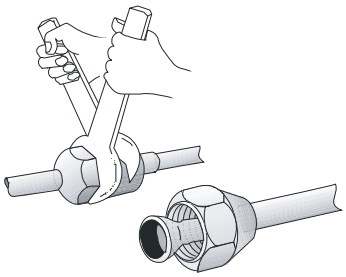
7.9.1 Connecting the Refrigerant Lines

- Use tubing sizes according to the following table.
- To connect the refrigerant lines use only "L" type sealed, dehydrated copper refrigerant tubing. No other type may be used. The use of other types of tubing will void the manufacturer's warranty.
- Do not open service valves and do not remove protecting caps from tubing ends until all the connections are made.
- Take care to avoid links or flattening of the tubing.
- Bend tubing with special bending tools to avoid the formation of sharp bends.
- Keep the tubing free of dirt, sand, moisture and other contaminants to avoid damaging the refrigerant system.

Unit Type	Tubing Length up to 20m.		Tubing Length over 20m.	
	Liquid Small	Suction Large	Liquid Small	Suction Large
CU150	3/8"	1/2"	1/2"	5/8"
CU200-CU350	3/8"	5/8"	1/2"	3/4"
CU400-CU500	1/2"	3/4"	5/8"	7/8"
CU600-CU1000	1/2"	7/8"	5/8"	1⅛"
CU1200-CU1400	5/8"	1⅛"	3/4"	1⅜"

7.9.2 Flaring and Connecting

- Remove the protecting cap from the flare fitting.
- Remove the protecting cap from the tubing and cut to the required length. Make sure that the cut is perpendicular and clean, without burrs.
- Slip the flare nut on the tubing and flare the tube end, using standard flaring tools.
- Tighten the nut until resistance is met. Using a suitable wrench, tighten an additional 1/4 turn. Use the following specified torque, according to connection size. See illustration in Fig.7-9.
- The valves on the outdoor unit must remain closed until all four connections have been made.



Tubing Size	3/8"	1/2"	5/8"	3/4"	7/8"
Torque Kgm	4	5	6	8	10

Fig. 7-9

7.9.3 Air Vacuum and Refrigerant Charge

When all the fittings are connected, air must be purged as follows:

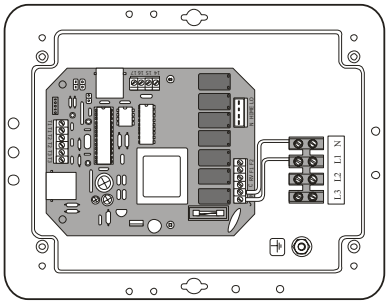
- Open the service port cap on the suction line valve (large valve).
- Connect the vacuum pump to the service port via the pressure gauge and operate the pump for 30 minutes.
- Make sure that full vacuum is reached and disconnect the vacuum pump.
- Open the liquid line valve (small valve) with an Allen-Wrench for the purpose.
- Open the suction line valve (large valve) using an Allen-Wrench for the purpose.
- The outdoor unit is supplied with sufficient refrigerant for 10 meters tubing. Add refrigerant and oil according to the table, for each meter of tubing above 10 meters. If the tubing is shorter than 10 meters, release gas from the system through the service valve into a recycling device.
- Close the service port caps on the suction line and the liquid valves.
- Make sure that the valves are properly opened. Be careful not to open them more than required, as this may damage the thread.
- Replace the stem cap. Oil the cap beam and hand tighten the cap, until resistance is met. Use a suitable wrench to tighten the cap by an additional 1/6 turn.
- Check the system for refrigerant leaks using a leak detector.

Tubing Line	Add refrigerant and oil if tubing exceeds 10 m. For each 1 m. tubing add:	
	Refrigerant (gr.)	Oil (gr.)
3/8"-1/2"	12	8
3/8"-5/8"	15	10
1/2"-5/8"	20	13
1/2"-3/4"	25	16
1/2"-7/8"	30	20
5/8"-7/8"	32	20
5/8"-1⅛"	35	23
3/4"-1⅜"	40	27

8. INSTALLING THE CONTROL SYSTEM AND CONNECTING POWER

8.1 Identification of the Components

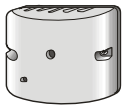
MIG 101:
Main control box.
Standard supply for all units.



M101P:
I/R (Infra Red) Receiver Panel, wall mounted.
Features I/R receiving and On/Off pushbuttons.
Standard supply for all units that do not have the wall mounted thermostat ETN1000.

RT-01:
I/R Transmitter (Remote Control).
Daily programmable.

IRR/1:
I/R Room Receiver, wall mounted.
Enables the use of the Remote Control unit from another room.
Up to 10 Room Receivers can be daisy chained.
Optional supply.



ETN1000:
Wall mounted thermostat.
Features local temperature readout and adjustment, on/off pushbuttons, mode adjustment, fan adjustment and I/R receiving.
Optional Supply.

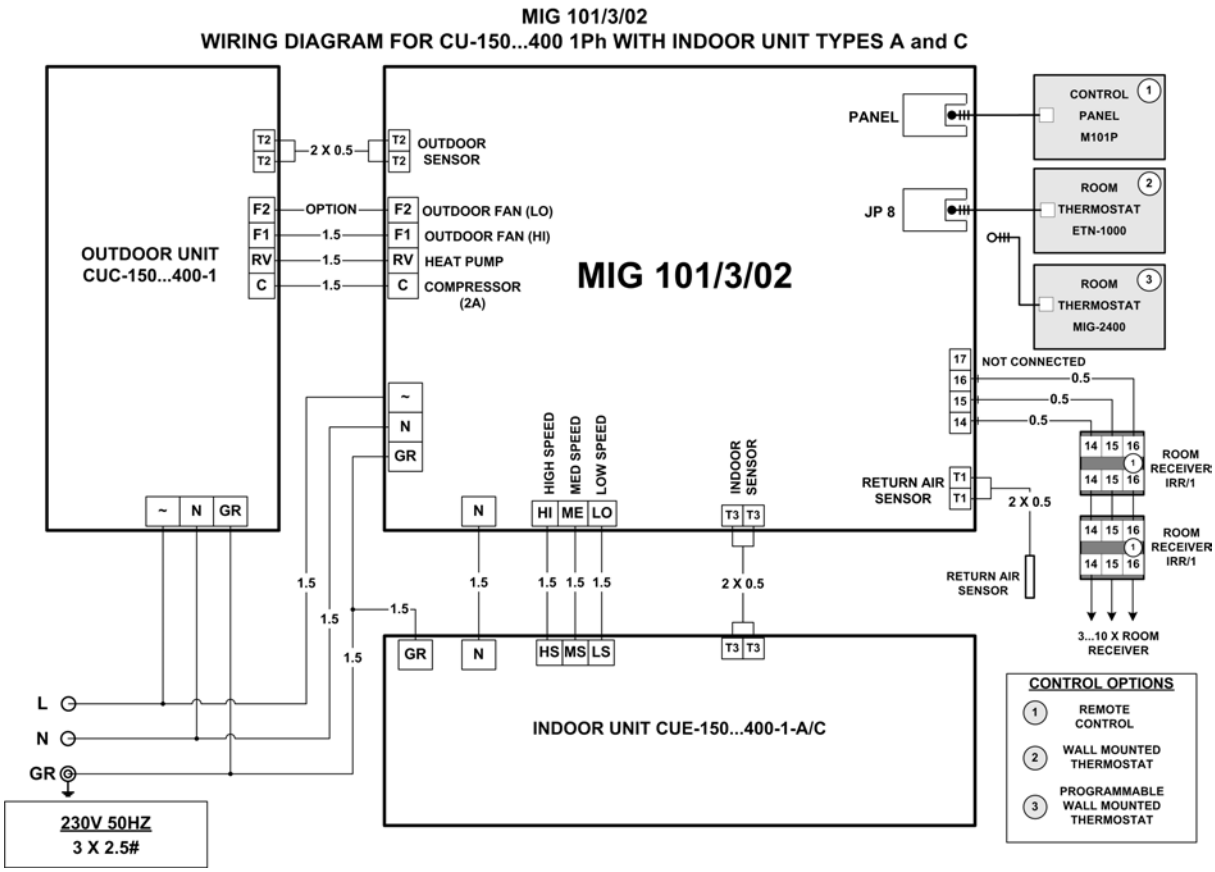
MIGA2400:
Programmable wall mounted thermostat.
Same features as ETN1000 but with additional weekly programming capabilities.
Without I/R receiving.
Optional supply.

Important! The control wires between the main control box and the wall mounted thermostat utilize low voltage 12V DC.
The control wires must run in separate tracks, at least 50 mm away from high voltage cables (230 or 400 Volts).
Avoid also proximity to communication cables or RF interference. The use of shielded cables is recommended in such locations.

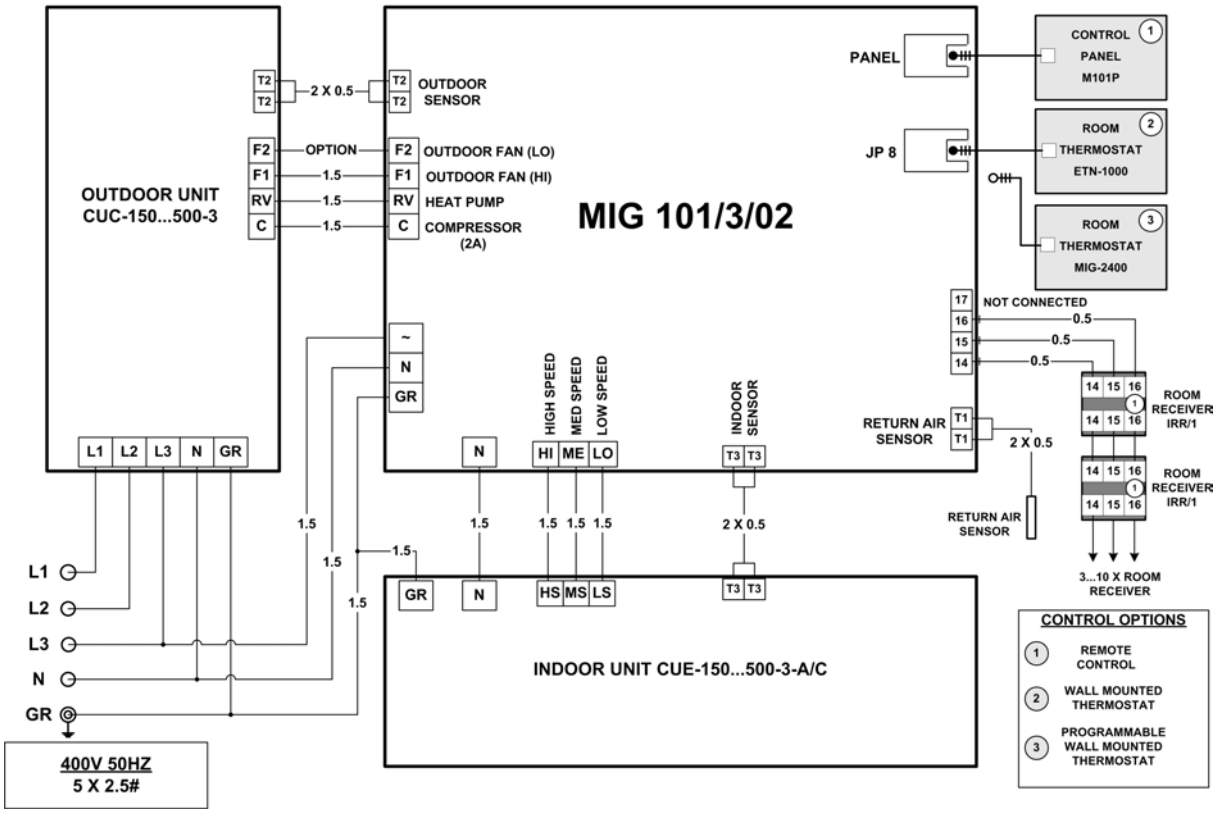
8.2 Installing the Wall Mounted Units and the Remote Control

- Remove all control components from their packaging.
- Place the control box on the indoor unit service door, or up to 1.5 m. from the unit. The box should be conveniently located for access by service personnel. Protect both the control box and the electrical connections from water and high humidity.
- Install the in-room wall mounted units. For each unit repeat the following procedure:
  - Separate the front panel from the back panel by depressing the tongue lock located in the upper part of the unit.
  - Push the back panel out.
  - Line the back panel up against the wall or against any other flat surface onto which it is to be mounted. Drill holes and use appropriate fixing screws to fasten the panel to its location.
- Complete the electrical connections according to the suitable electrical wiring diagrams.
- Close back the covers of the units to their base.

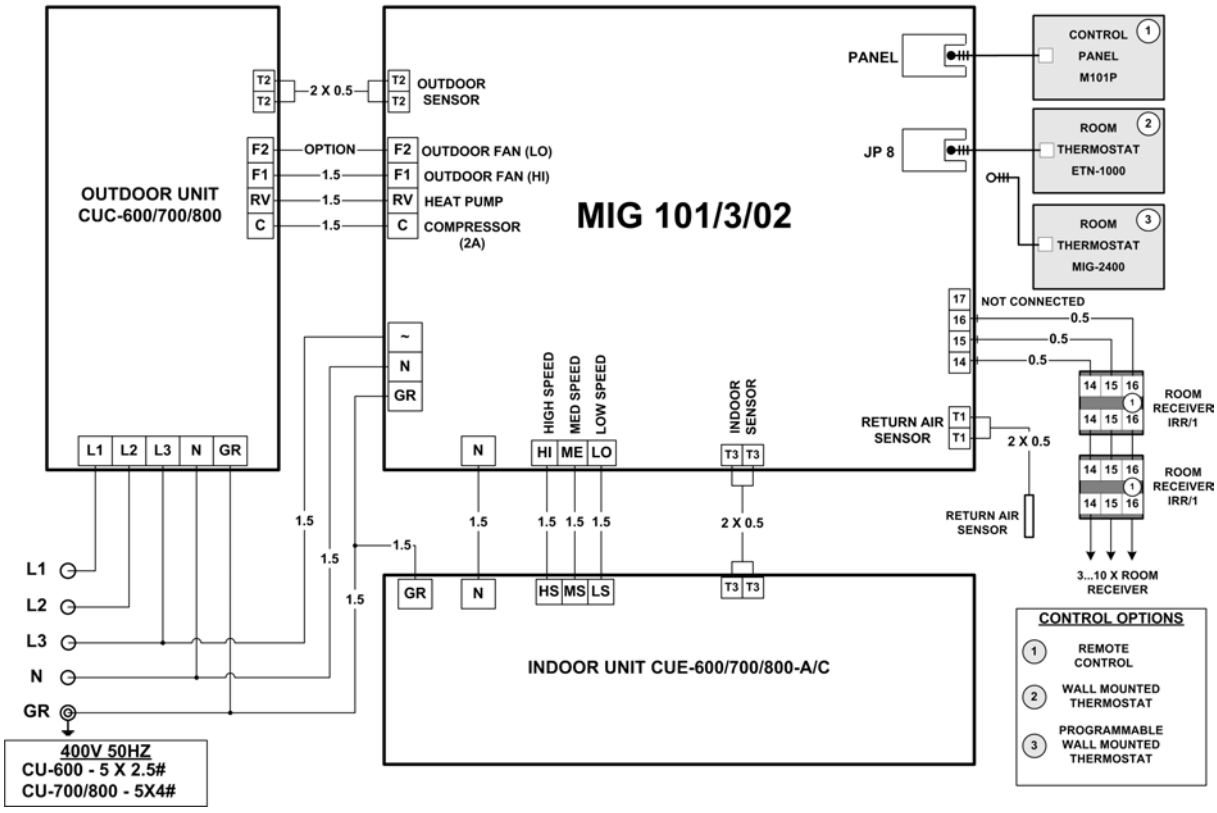
8.3 Wiring Diagrams - Indoor and Outdoor Units.



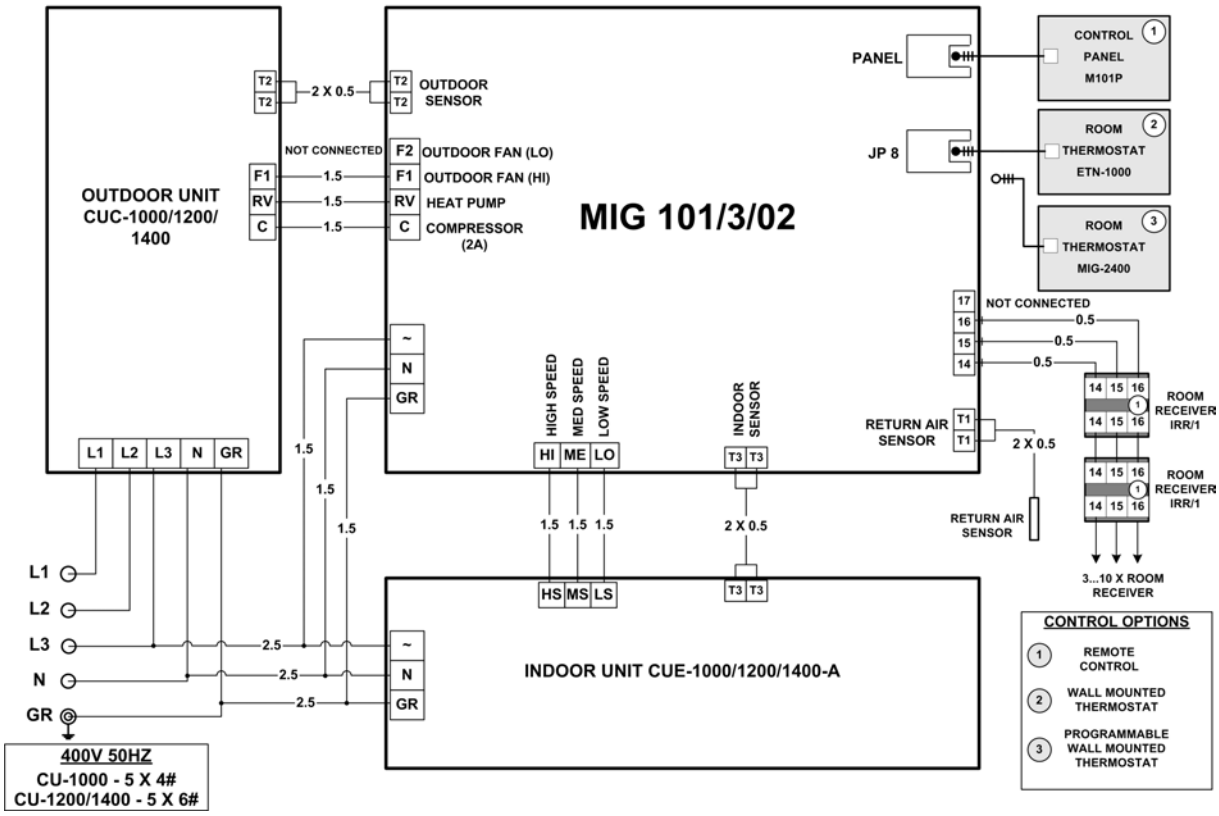
MIG 101/3/02
WIRING DIAGRAM FOR CU-150...500 3Ph WITH INDOOR UNIT TYPES A and C



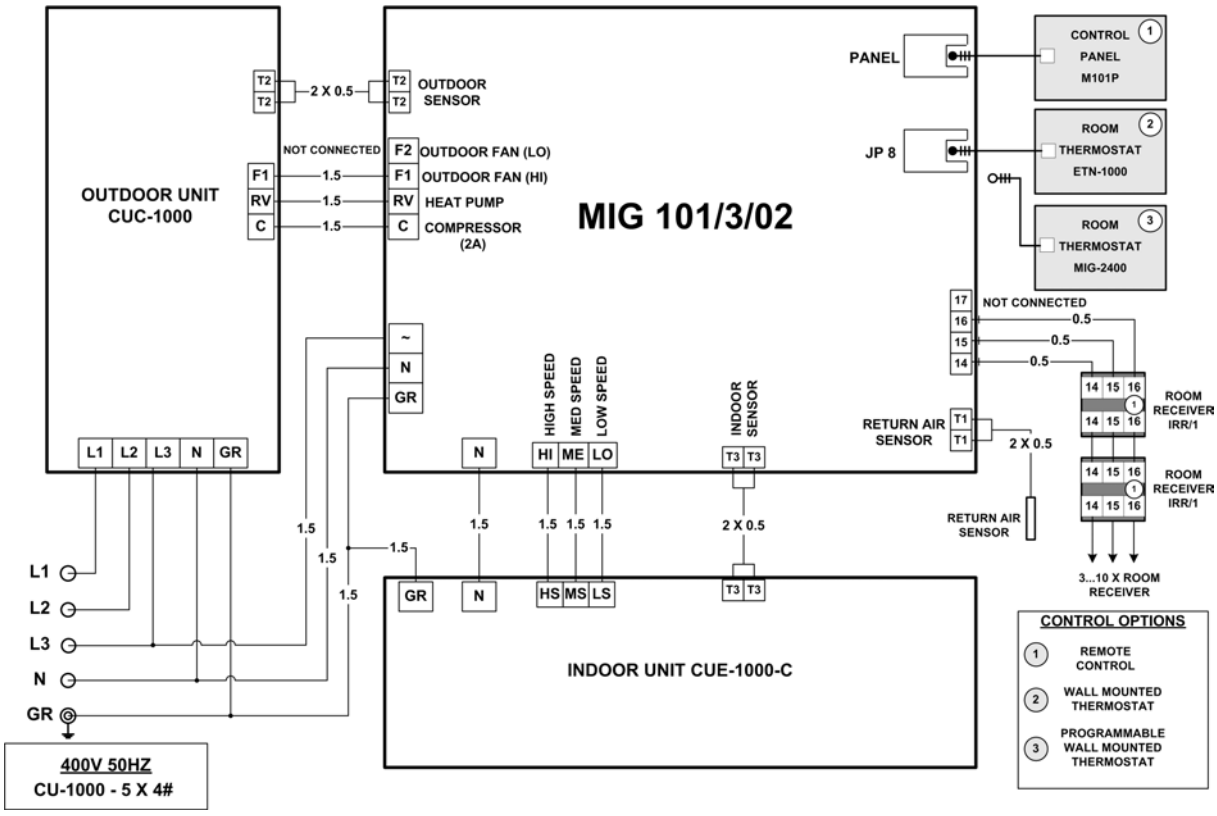
MIG 101/3/02
WIRING DIAGRAM FOR CU-600/700/800 WITH INDOOR UNIT TYPES A and C



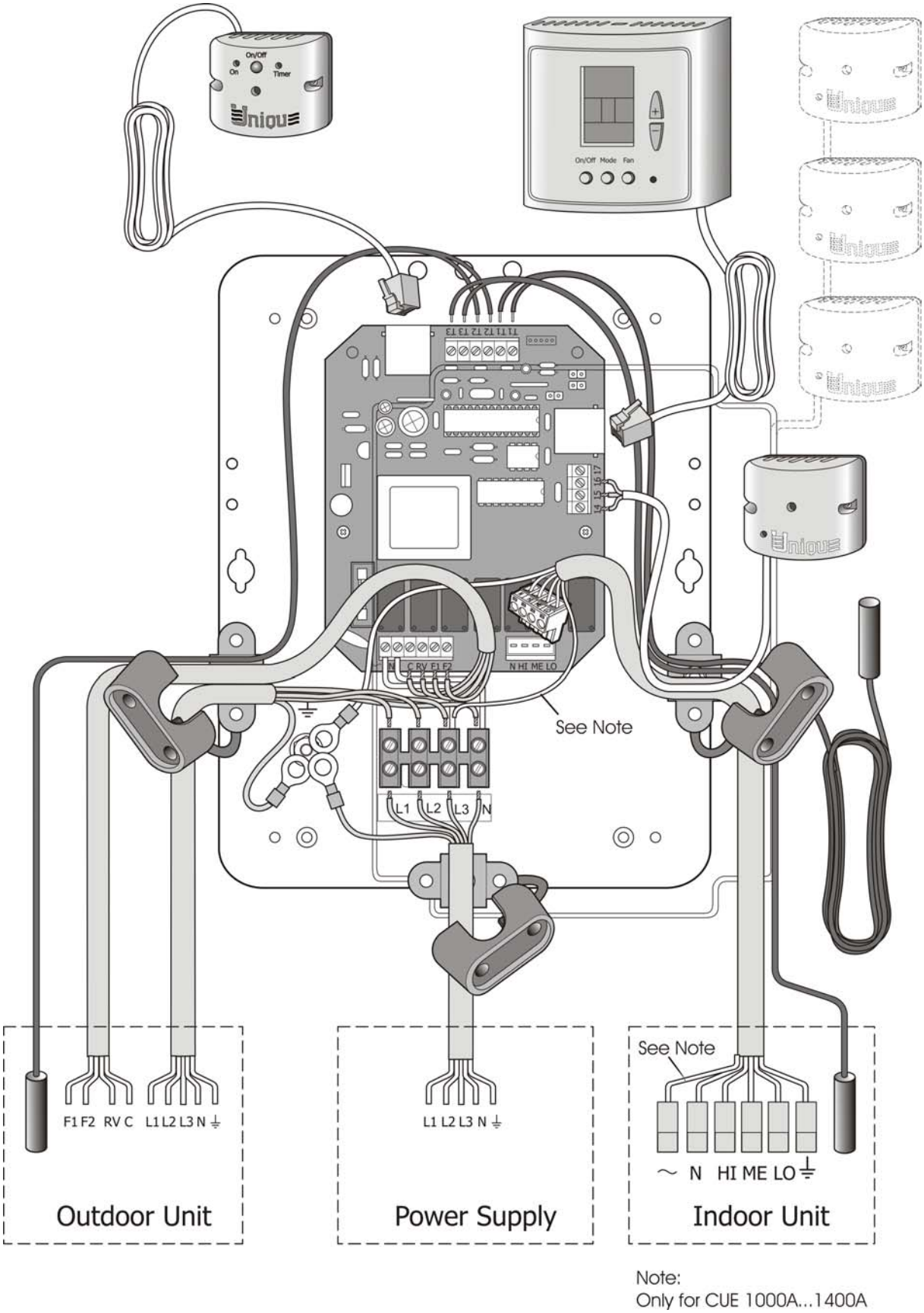
MIG101/3/02
WIRING DIAGRAM FOR CU-1000...1400 WITH INDOOR UNIT TYPE A



MIG 101/3/02
WIRING DIAGRAM FOR CU-1000 WITH INDOOR UNIT TYPE C



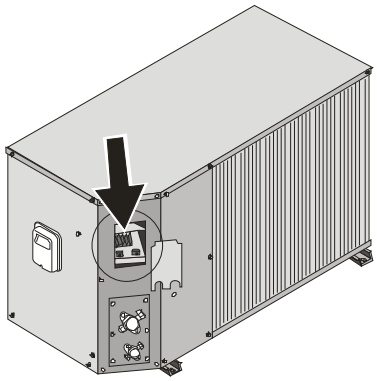
8.4 Electrical Wiring Scheme

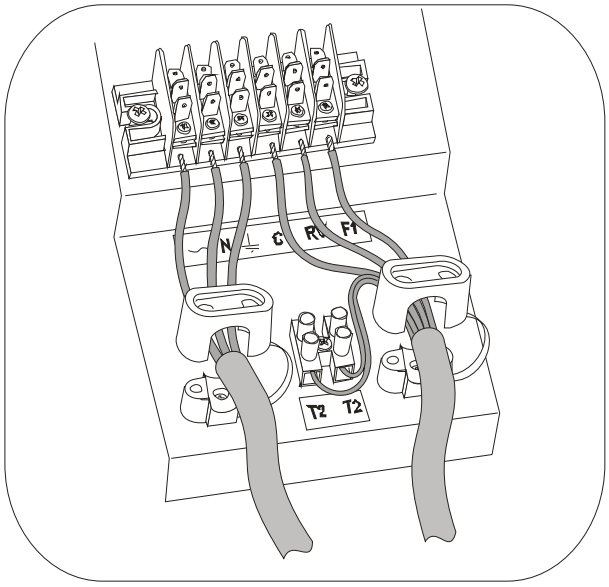


8.5 Wiring the Outdoor Unit

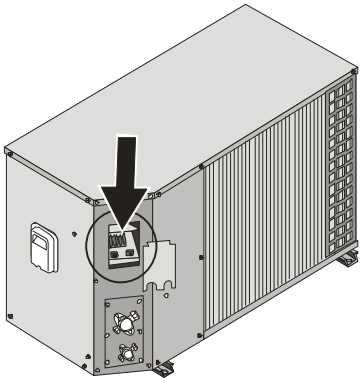
- Locate the terminal box cover according to the following figures.
- Remove the outdoor unit side cover.
- Connect the wires to the terminals, in accordance with the color coding and the suitable wiring diagrams.
- Connect the outdoor sensor cable, making sure the connector is properly inserted.
- Secure the inter-unit electrical cable to the outdoor unit using the clamps.
- Make sure that all screws and wires are properly fastened. Loose wires or connections can cause damage and present a fire hazard!
- Reassemble the side cover.

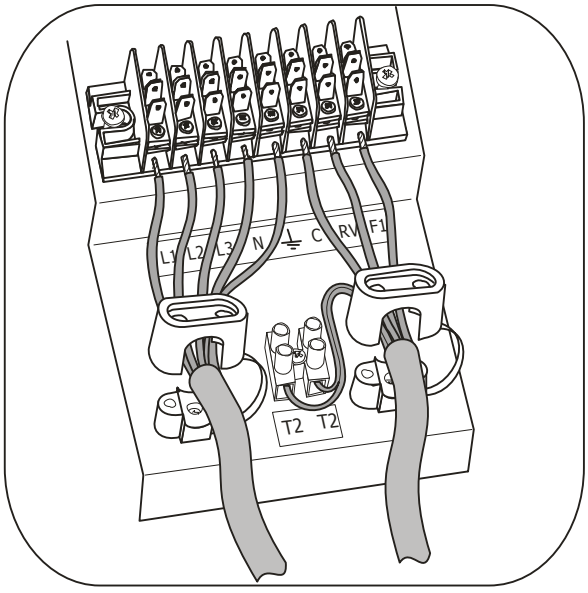
8.5.1 Outdoor Unit Terminal Box CUC-150…400-1



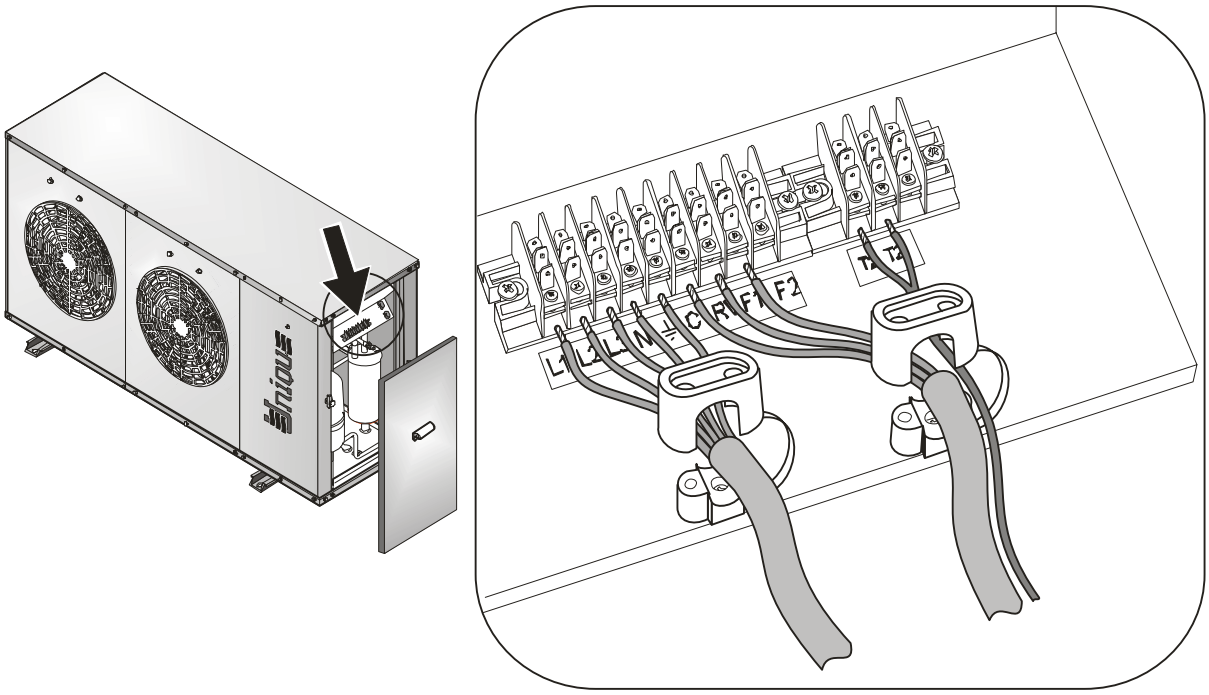


8.5.2 Outdoor Unit Terminal Box CUC-150…500-3

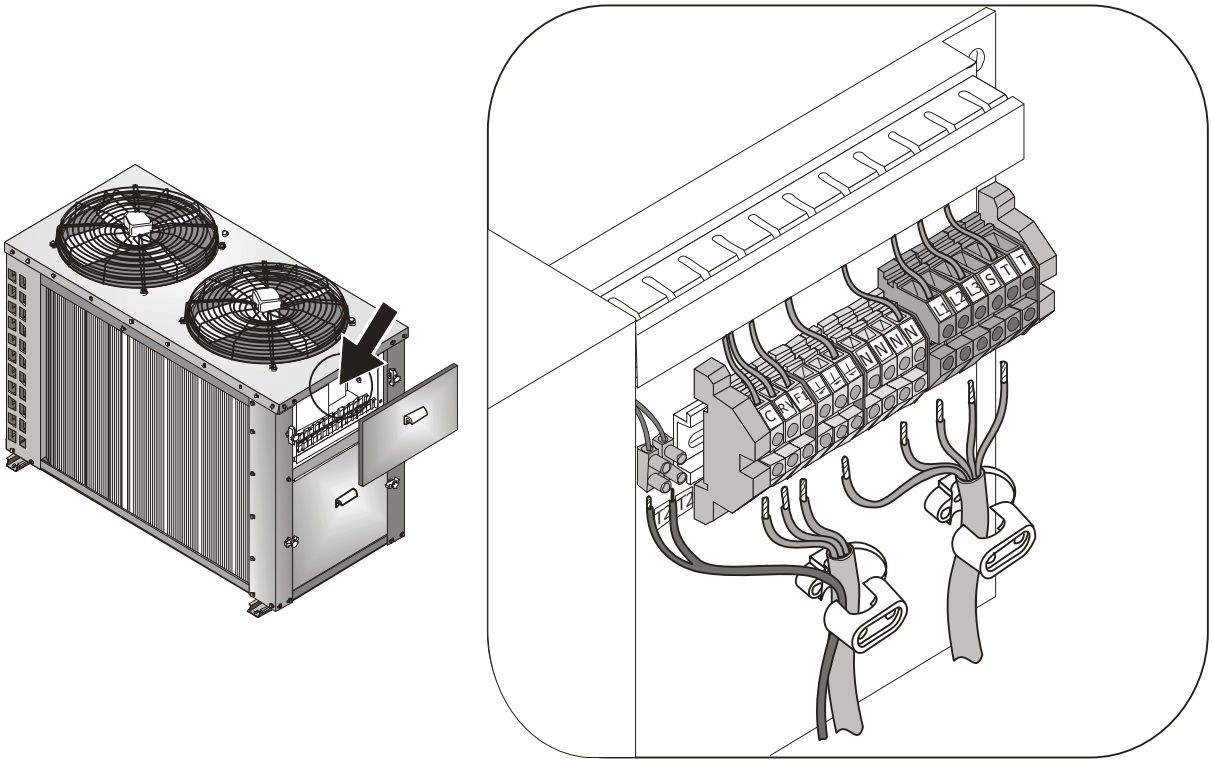




8.5.3 Outdoor Unit Terminal Box CUC-600…800



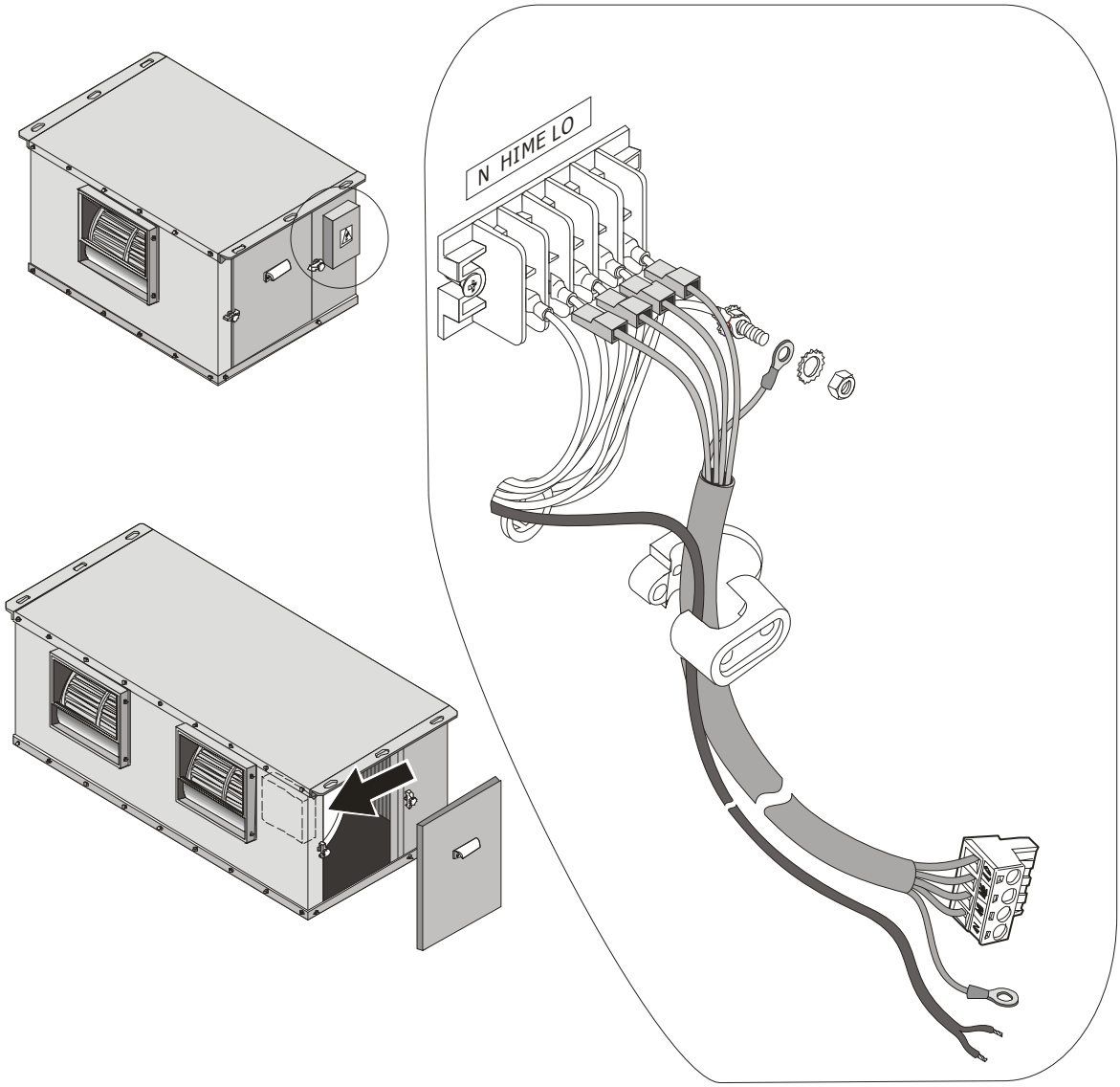
8.5.4 Outdoor Unit Terminal Box CUC-1000…1400



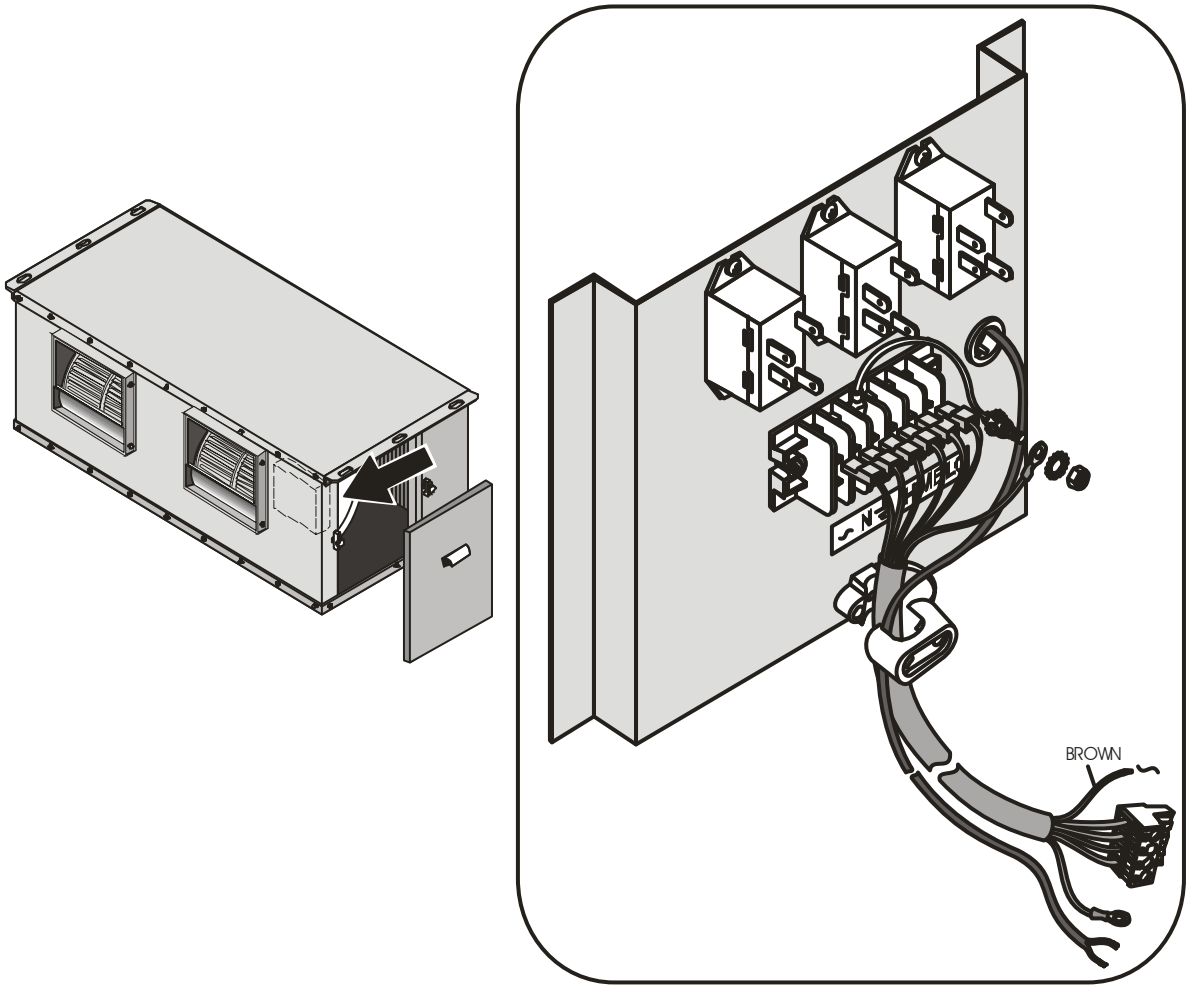
8.6 Wiring the Indoor Unit

- Locate the terminal box cover according to the following figures.
- Remove the indoor unit side cover.
- Connect the wires to the terminals, in accordance with the color coding and the suitable wiring diagrams.
- Make sure that all connections are properly inserted and fastened.
- Make sure that all screws and wires are properly fastened. Loose wires or connections can cause damage and present a fire hazard!
- Reassemble the side cover.

8.6.1 Indoor Unit Terminal Box CUE-150A…800A and 150C…1000C



8.6.2 Indoor Unit Terminal Box CUE-1000A…1400A



8.7 Finishing the Job

- Hide the tubing wherever possible.
- Make sure that the drainage tube slopes downstream along its entire length.
- Insulate tubing connections with insulation materials.
- Fasten tubes to the outside wall.
- Seal the hole through which the cables and tubing are passing.
- Connect the air conditioner to the power source. Check all air conditioning operating modes. Consult the user manual.

8.7.1 Check List

Follow this check list:

- Do all the remote control buttons function properly?
- Is the I/R receiver working properly?
- Does the drainage work?
- Are there unusual noises or vibrations during operation?
- Is noise, drain water or air flow from the unit likely to disturb the neighbors?
- Are there any gas leakages?

9. TROUBLESHOOTING GUIDE

9.1 General Troubleshooting.

Note: Check for broken wires and loose cable lugs first!
Warning: Always unplug the A/C before performing cleaning or maintenance activities.

	Symptom	Probable Cause	Corrective Action
1	A/C fails to start.	1. Power supply to unit not connected (LCD display is blank). 2. Fuse Blown (LCD display is blank). 3. ON/SEND on R/C has not been pressed. 4. A/C does not receive transmitted commands. 5. Electric supply wall socket is defective.	1. Check for proper connection of power plugs in wall socket. Check red LED on RST Controller (wherever applicable): If LED is OFF – change RST wires. If LED is ON – check Phase voltage. 2. Reset automatic circuit breaker or replace line fuse. 3. Press ON/SEND button on R/C. 4. Make sure that noting blocking the R/C transmission to the A/C display. 5. Repair or replace wall socket.
2	Only indoor fan ventilator works although cooling or heating is desired.	1. The selected mode is on Fan Only, or on Cool when heating is desired. 2. Temperature is set to a value which is too high (in Cool mode). 3. Faulty outdoor fan motor or other fault that cause compressor overload protection to cutout.	1. Check if the R/C is on the desired mode. If not, select the correct mode (refer to your User Manual). 2. Observe the temperature setting on the R/C. 3. See step 3 and/or step 4.
3	Only indoor fan motor and compressor working. Outdoor fan motor stopped.	1. In Heat mode: Head pressure is too high. 2. In Cool mode: system runs while evaporator Anti-Ice routine takes place.	1. Wait up to 90 seconds. Check air flow through indoor evaporator. Eventually clean filter. 2. Wait up to 90 seconds until Anti-Ice routine is completed.

General Troubleshooting (continued).

	Symptom	Probable Cause	Corrective Action
4	In Cool mode: high pressure, or; In Heat mode: outdoor coil freeze.	1. Run capacitor of outdoor fan motor is burnt. 2. Winding of outdoor fan motor is shorted.	1. Replace outdoor fan motor run capacitor. 2. Replace outdoor fan motor.
5	Only indoor fan motor and outdoor fan motor are working. No cooling and/or heating take place.	1. Overload safety device on compressor is cut out due to high temperature. 2. Compressor run capacitor is burnt. 3. Compressor winding shorted. 4. Pressure is too high.	1. Switch Off power and try again after one hour. 2. Replace compressor run capacitor. 3. Replace compressor. 4. Check HP controller. Press RESET button.
6	No air supply at indoor unit (compressor operates).	1. Indoor fan motor is blocked or turns slowly. 2. Indoor fan motor capacitor is burnt. 3. Indoor fan motor winding is burnt. 4. In Heat mode: delayed start for indoor fan motor. 5. Clogged air filters.	1. Check voltage. Repair wiring if necessary. Check indoor fan wheel if tight on motor shaft. Tighten if necessary. 2. Replace indoor fan motor capacitor. 3. Replace indoor fan motor. 4. Normal software delay (max. 20 sec.). 5. Clean filters.
7	Low Capacity.	1. Lack of refrigerant (will be accompanied by whistling noise); causes ice formation on the evaporator coil (in Cool mode). 2. Clogged air filters.	1. Unit must be charged (according to the nameplate) after localizing the gas leak. 2. Clean filters.
8	In Heat mode: only compressor runs, outdoor and indoor fan motors are stopped.	A/C operates in De-Icing cycle.	Wait (max.) 10 min. until the A/C resumes to normal operation.

General Troubleshooting (continued).

	Symptom	Probable Cause	Corrective Action
9	Water accumulates and overflows from evaporator drain pan.	Drain pan pipe or hose is clogged or the spout of drain pan is clogged.	Disassemble plastic drain-pipe from spout of evaporator drain pan. Flush with clean water.
10	Water dripping from the condenser base (in Heat mode).	Water drain outlet or the spout is clogged.	Open condenser cover, clean out water outlet, and clean the base inside thoroughly.
11	Indoor fan is not running at all.	1. Failure in motor capacitor. 2. No voltage out of P.C.B. assembly for fan motor. 3. Motor winding failure (check resistance).	1. Replace the capacitor. 2. Replace the P.C.B. assembly. 3. Replace the fan motor.
12	Outdoor fan is not running at all.	1. Power supply failure.. 2. Fan motor relays failure. 3. Fan contactor failure. 4. Motor winding failure (check resistance).	1. Check power supply. 2. Replace faulty relays. 3. Replace faulty contactor. 4. Replace the fan motor.
13	Compressor motor is not running at all	1. Failure in compressor motor magnetic contactor. 2. Failure in KP-5. 3. Compressor motor winding failure (check resistance).	1. Replace faulty contactor. 2. Reset KP-5. 3. Replace the compressor.

9.2 Poor Cooling Troubleshooting.

	Symptom	Probable Cause	Corrective Action
1	Refrigerant flow failure	1. Refrigerant gas shortage. 2. Excessive overcharging of refrigerant. 3. Gas leakage. 4. Clogging of strainer or capillary tube. 5. 4-Way valve is defective. 6. Solenoid 4-Way valve is defective. 7. Compressor is defective. 8. Service valves are not fully open.	1. Charge refrigerant gas. 2. Recharge gas. 3. Repair leakage. 4. Replace strainer. 5. Replace 4-Way valve. 6. Replace solenoid. 7. Replace compressor. 8. Open the valves full.
2	Air circulation failure.	Air filter is clogged.	Clean air filter.
3	Installation failure.	1. Location of the indoor or the outdoor units is not according to the instructions. 2. Refrigerant tubes between the units are not installed according to the instructions.	1. Relocate units. 2. Relocate or replace tubes.

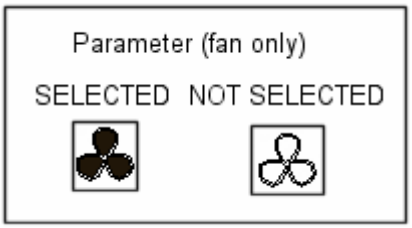
9.3 Poor Heating Troubleshooting.

	Symptom	Probable Cause	Corrective Action
1	Refrigerant flow failure	1. Refrigerant gas shortage. 2. Excessive overcharging of refrigerant. 3. Gas leakage. 4. Clogging of strainer or capillary tube. 5. 4-Way valve is defective. 6. Solenoid 4-Way valve is defective. 7. Compressor is defective. 8. Service valves are not fully open.	1. Charge refrigerant gas. 2. Recharge gas. 3. Repair leakage. 4. Replace strainer. 5. Replace 4-Way valve. 6. Replace solenoid. 7. Replace compressor. 8. Open the valves full.
2	Air circulation failure.	Air filter is clogged.	Clean air filter.
3	Installation failure.	1. Location of the indoor or the outdoor units is not according to the instructions. 2. Refrigerant tubes between the units are not installed according to the instructions.	1. Relocate units. 2. Relocate or replace tubes.
4	Defrost failure.	T2-T2 Thermistor is defective.	Replace T2-T2 Thermistor.

10. OPERATING INSTRUCTIONS

10.1. Operating Instructions - RT – 01 - Infra Red Remote Control Transmitter

Important Note:
The infra red remote control must be directly aimed at the thermostat (or receiver) in order to operate.
The thermostat "beeps" every time it has received new information.
If no button is pressed for 10 seconds, the display will return to normal display mode.
The icon of a selected feature turns dark. Not selected feature remains pale. See the following example:



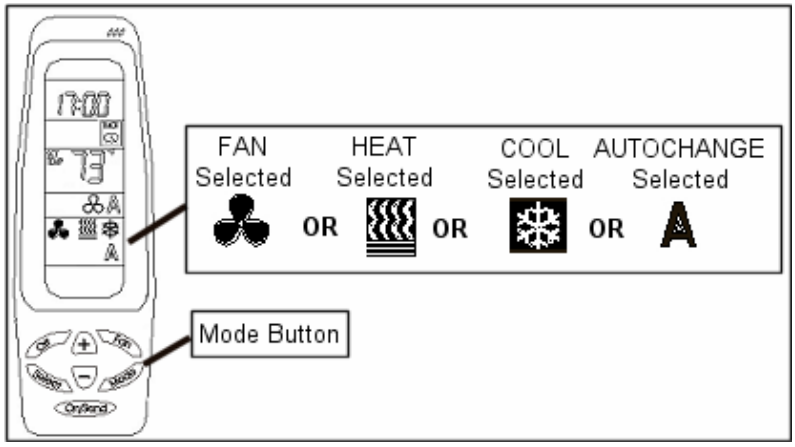
On/Send

To activate the air conditioner and/or update information press On/Send button.

Mode:

Press MODE button to change between: COOL, HEAT, AUTO CHANGE (A) and FAN ONLY.

Press ON/SEND button to send the information to the thermostat.



Fan:

Press fan button and choose between: HIGH, MEDIUM, LOW or AUTO SPEED.

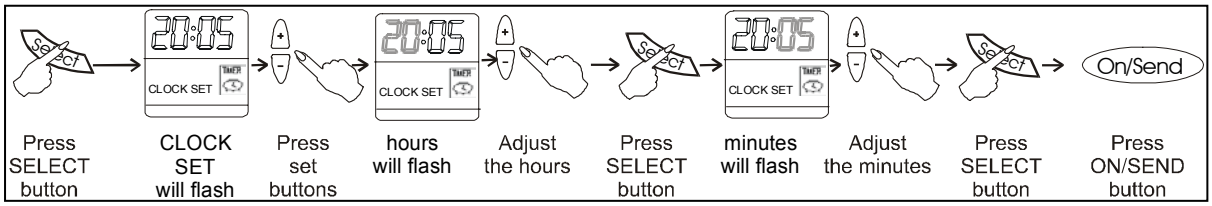
Auto Speed
The fan speed changes according to the temperature difference between “Set temperature” and “Actual ambient temperature”
The greater is the difference between “set” and “actual” - the faster is the fan-speed.

Set Temperature:

To set the desired temperature (set point): press the set buttons (+) or (-) to the desired temperature. Press ON/SEND button to send the information to the thermostat.

Real Time Clock:

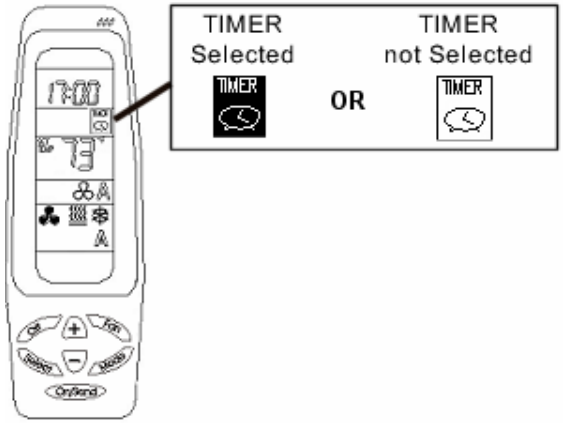
Press SELECT button: CLOCK SET will flash. Press (+) or (-) buttons, the hours will flash. Use the set button, press (+) to increase and (-) to decrease the hours.
Press SELECT button again, the minutes will flash. Use the set button, press (+) to increase and (-) to decrease the minutes.
Press SELECT button again to exit from the program or press ON/SEND button to send the information to the thermostat.



Timer:

Start time:
Press SELECT button twice. **PROGRAM & START** will appear flashing in the display.
Press SELECT button, the hours will flash. Press (+) to increase hours or press (-) to decrease hours.
Press SELECT button, the minutes will flash. Press (+) to increase minutes or press (-) to decrease minutes.
Stop time:
Press SELECT button: **PROGRAM & START** will appear flashing in the display.
Press SELECT button, the hours will flash. Press (+) to increase hours or press (-) to decrease hours.
Press SELECT button, the minutes will flash. Press (+) to increase minutes or press (-) to decrease minutes.

Press SELECT button, the TIMER will blink; using the (+) or (-) buttons, Select TIMER ON or OFF. If you changed between TIMER ON or TIMER OFF, the SEND will blink. Press SEND/ON button to send the information to the thermostat. If you did not change between them, press the SELECT button to end programming.



10.2. Operating Instructions – M101P

M101P is a wall mounted Infra Red Receiver.

On/Off
Press On/Off button to start or to stop the air conditioner. Can be used when the remote control transmitter is not available.
The air conditioner starts at its last preset position.

On LED
Lights when A/C unit is activated.

Timer LED
Lights when ON\OFF Timer is activated.

10.3. Operating Instructions – ETN1000

On/Off
Press ON/OFF button to activate the thermostat; ON led will lit.
For OFF press ON/OFF again; OFF led will lit.

Set Temperature
Press (+) or (-) button. Temperature digit will flash. Set to the desired temperature using the (+) or (-) buttons.

Mode
Press MODE button and adjust between: COOL, HEAT, COOL/HEAT (Automatic cool/heat change over) or FAN (fan only).

Fan
Press fan button and choose between: Fan high, medium, low or Auto speed (all together)
Auto speed: the fan speed change according to the difference in the temperature between "Set temperature" and "Actual ambient temperature". The greater the difference between "set" and "actual" - the faster the fan-speed

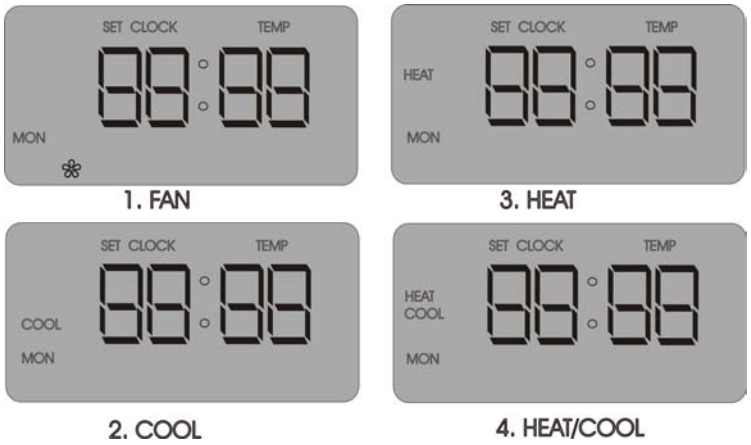
Auto fan
Press and hold fan button and choose: Fan or Auto fan.
(Auto fan - fan is active only when there is demand for cooling or heating).

10.4. Operating Instructions for Wall Mounted Thermostat MIGA2400

10.4.1 General Settings

ON/OFF
Press ON/OFF button to activate the thermostat. Green led will light. For OFF press again (the green led will flash when compressor time delay protection is ON).

MODE
Press the MODE button to switch between 4 modes: FAN (Fan only), COOL, HEAT, and HEAT/COOL (automatic Heat\cool change-over).



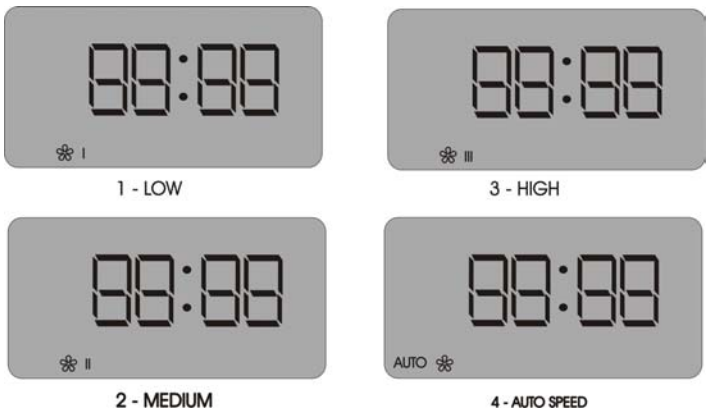
FAN
Fan Only - When only ventilation needed.

COOL/HEAT
Activate Heating and Cooling automatically according to the difference between the “Set” and “Actual” temperature.

COOL
Cooling for summer time. Up to 3 stages of cooling can be selected. Cooling stages will be indicated by lines near the cooling icon.

HEAT
Heating for winter time. Up to 4 stages of heating can be selected. Heating stages will be indicated by lines near the heating icon.

SPEED
Fan speed selector: 1(Low speed), 2 (Medium speed), 3 (High speed) and 4 (Auto speed).

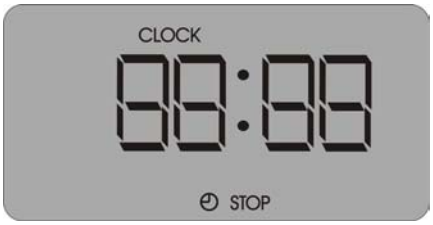


AUTO SPEED
The fan speed changes according to the temperature difference between “Set temperature” and “Actual ambient temperature”
The greater is the difference between “set” and “actual” - the faster is the fan-speed.

AUTO FAN
In Auto fan mode the fan stops whenever the compressor does. This arrangement does not only save electricity, but also avoid cool air when the heating stops. This mode is useful in the winter. AUO FAN mode is displayed by “AUTO FAN” on the LCD screen.

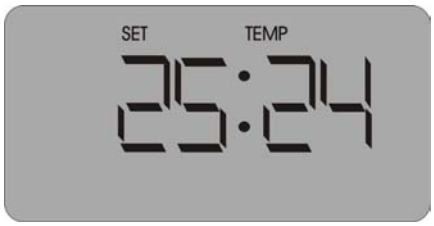
REAL TIME CLOCK
Hours adjustment: press CLOCK button, hours digits will flash, using the set button press (+) to increase and (-) to decrease the hours.
Minutes adjustment: press CLOCK button again and adjust the minutes.
Press CLOCK again to return to normal display mode.

TIMER
TIMER setting allows you to stop the Air conditioner in a certain time (when it's ON) or to start at certain time (when it's OFF).
To stop, when Air conditioner is ON, press PROG button, hours flashing, adjust the hours using the set buttons.
Press PROG again and adjust the minutes using the set buttons.
Press PROG again to return to normal display - STOP will appear.



To start - when the air conditioner is in OFF - press PROG, adjust the hours using the set buttons.
Press PROG and adjust the minutes using the set buttons.
Press PROG to return to normal display - START will appear.

ADJUSTING THE TEMPERATURE
In normal display mode, press set buttons to set the desire temperature.



RESET
In case that the air conditioner stoped and the FAULT led turned on, pressing RESET button resets the unit.

COOL MODE PROTECTION
The compressor stops at T3 < -2°C and returns at T3 > 6°C. Three defrost cycles that occure in1 hour will activate the defrost protection and the unit will lock. LCD displays STOP.
Reset the unit to return to normal working mode and call service.

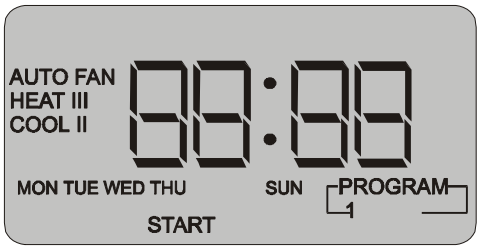
PRESURE SWITCH ALARM
When contacts (T2, T2) open, the unit will stop. LCD will display FLT. Reset the unit to return to normal working mode.

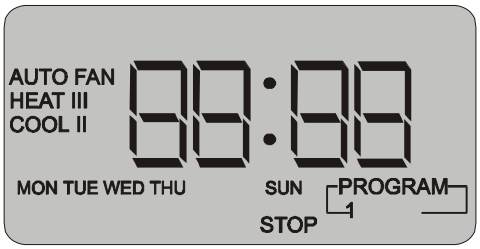
10.4.2 PROGRAMMING

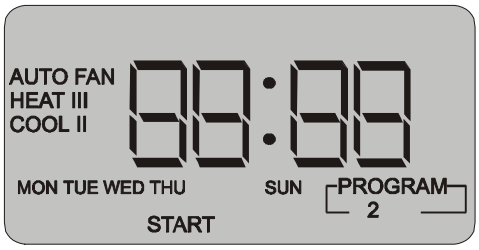
Two programs are available for setting each week day, Monday – Friday. Another two programs are available for Saturday and another two for Sunday.

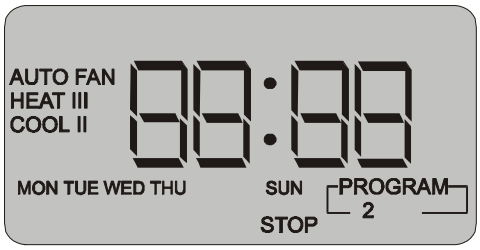
Monday to Friday programming

Press PROG. The display will flash.









A. First Program - Start Time: Press PROG. Hours indication will flash. Use the set button to adjust the hours.
Press PROG. Minutes indication will flash. Use the set button to adjust the minutes.

Stop Time: Press PROG. Hours indication will flash. Use the set button to adjust the hours.
Press PROG. Minutes indication will flash. Use the set button to adjust the minutes.

B. Second Program – Repeat above mentioned steps.

Press PROG. for several times to return to normal display mode.

NOTE: The display returns to normal mode by itself if not pressed for 13 seconds.

Saturday and Sunday programming

Repeat above mentioned steps. SAT (or SUN) indication will appear on the LCD during programming.

Press PROG. for several times to return to normal display mode.

NOTE: The display returns to normal mode by itself if not pressed for 13 seconds.

Quick Review Mode

Enter into programming mode by pressing the PROG. button.
Press CLOCK button to advance Mon-Fri, Sat, Sun and out. During this procedure presetting can be reviewed and modified.

Switching between Manual and Program operation

While unit is on (green ON led lights) press and hold down for 3 seconds the PROG. button.
While in PROG. mode On/Off button switches from Manual to Program operation.

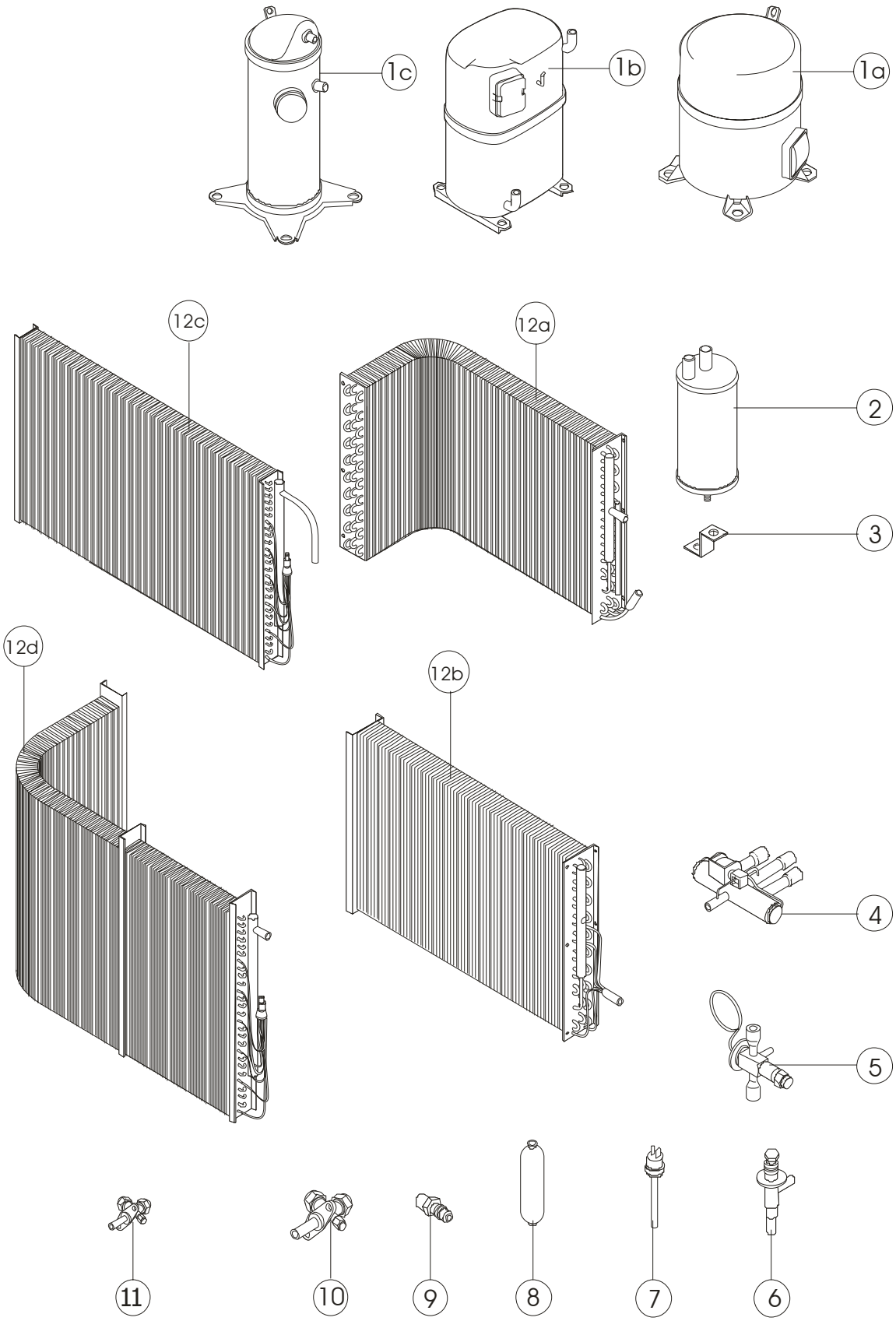
Timer Override

While in Program operation, any remote control timer settings will be override.

NOTES

11. SPARE PARTS LIST

11.1 Outdoor Unit Refrigerant System Components



CU150, CU200, CU200 (Outdoor Unit Refrigerant System Components)				
No. in Figure	Part Description	Parts No.		
		CU150	CU200	CU250
1b	Compressor	060119QA	0601243A	0601323A
1b	Compressor	0602C18P	0602C24P	0602C34P
4	4 Way Solenoid Valve	11019344	11019344	11019344
8	Muffler	1103MF02	1103MF02	1103MF02
9	Refrigerant Filling Valve	14020001	14020001	14020001
10	3 Way Service Valve	1106BG12	1106BG58	1106BG58
11	3 Way Service Valve	1106BG38	1106BG38	1106BG38
12b	Condenser Heat Exchanger	05010022	05010031	05010031

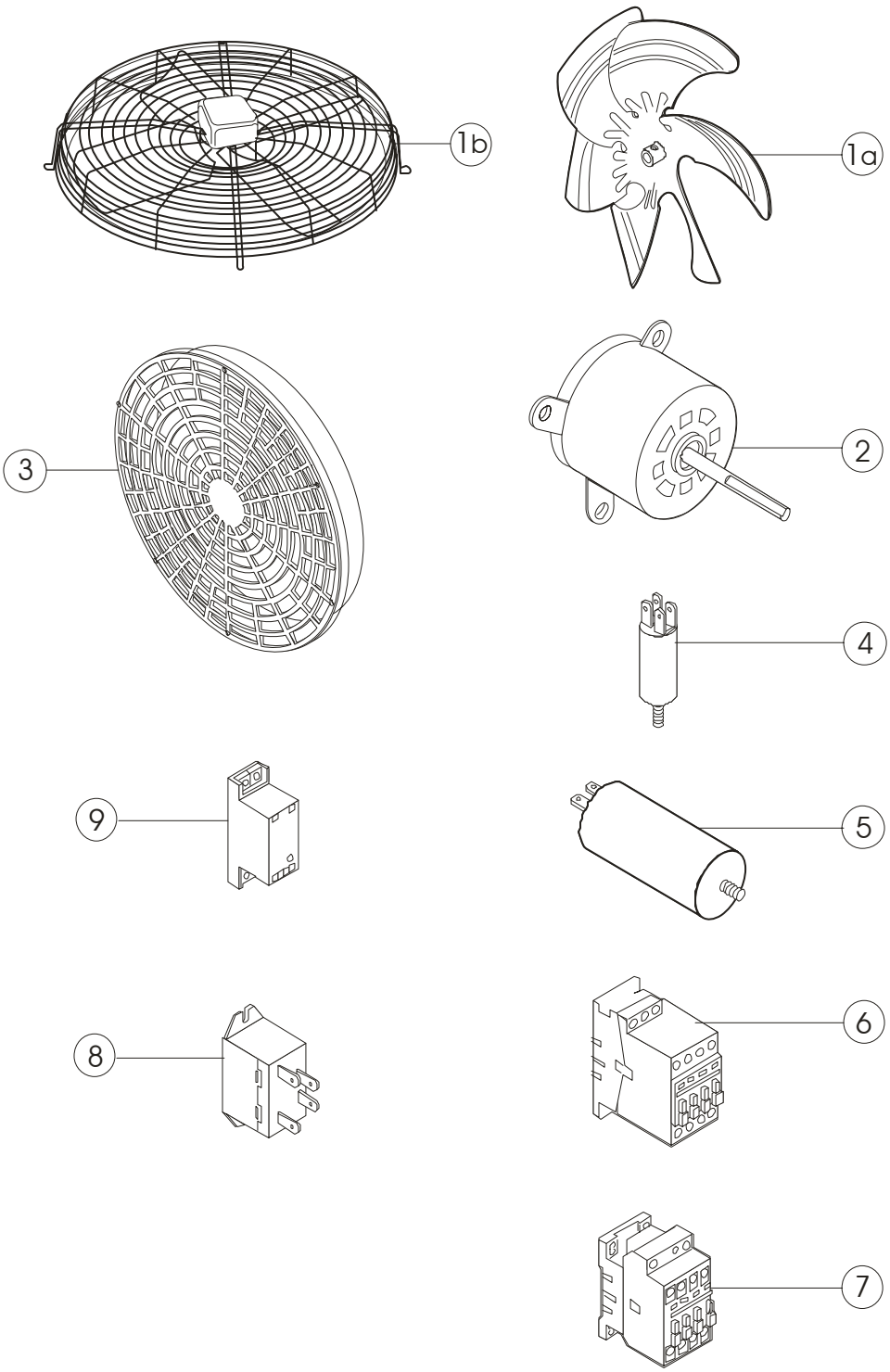
CU300, CU350, CU400 (Outdoor Unit Refrigerant System Components)				
No. in Figure	Part Description	Parts No.		
		CU300	CU350	CU400
1b	Compressor	060135UA	0601423A	0601463A
1b	Compressor 3Ph	0601354D	0601423D	0601463D
1b	Compressor	0602C38P	0602C42P	0602C47P
1b	Compressor 3Ph	0602C38T	0602C42T	0602C47T
4	4 Way Solenoid Valve	11010945	11010945	11010946
6	Hot Gas Bypass	1104HGB1	1104HGB1	1104HGB1
7	Suction Controlling Pressure Switch	1105DA53	1105DA53	1105DA53
8	Muffler	1103MF02	1103MF02	1103MF03
9	Refrigerant Filling Valve	14020001	14020001	14020001
10	3 Way Service Valve	1106BG58	1106BG58	1106BG34
11	3 Way Service Valve	1106BG38	1106BG38	1106BG12
12b	Condenser Heat Exchanger	05010035	05010035	050100XX

CU450, CU480, CU500(Outdoor Unit Refrigerant System Components)				
No. in Figure	Part Description	Parts No.		
		CU450	CUC480	CU500
1b	Compressor	060543D	0601583D	0601623D
1b	Compressor	0602C53T	0602C450T	0602500T
2	Suction Accumulator	11020034	11020034	11020034
4	4 Way Solenoid Valve	11012046	11012046	11012046
6	Hot Gas Bypass	1104HGB1	1104HGB1	1104HGB1
7	Suction Controlling Pressure Switch	1105DA53	1105DA53	1105DA53
8	Muffler	1103MF03	1103MF03	1103MF03
9	Refrigerant Filling Valve	14020001	14020001	14020001
10	3 Way Service Valve	1106BG34	1106BG34	1106BG34
11	3 Way Service Valve	1106BG12	1106BG12	1106BG12
12b	Condenser Heat Exchanger	050100XX	05010033	050100XX

CU600, CU700, CU800 (Outdoor Unit Refrigerant System Components)				
No. in Figure	Part Description	Parts No.		
		CU600	CU700	CU800
1c	Compressor	0601723D	0601943D	N/A
1c	Compressor	0602ZR72	0602ZR94	0602Z108
1b	Compressor	0604MT80	0604M100	06011004
2	Suction Accumulator	11020078	11020078	11020078
4	4 Way Solenoid Valve	11012047	11012047	11012047
5	Thermal expansion valve	1104T006	1104T006	1104T075
6	Hot Gas Bypass	1104HGB1	1104HGB1	1104HGB1
7	Suction Controlling Pressure Switch	1105DA53	1105DA53	1105DA53
8	Muffler	1103MF03	1103MF03	1103MF03
9	Refrigerant Filling Valve	140200001	140200001	140200001
10	3 Way Service Valve	1106BG78	1106BG78	1106BG78
11	3 Way Service Valve	1106BG12	1106BG12	1106BG12
12b	Condenser Heat Exchanger	05010036	05010454	050104D9

CU1000, CU1200, CU1400 (Outdoor Unit Refrigerant System Components)				
No. in Figure	Part Description	Parts No.		
		CU1000	CU1200	CU1400
1a	Compressor	0604M125	0604M160	0602ZR19
2	Suction Accumulator	11020078	11020078	11020118
3	Suction Accumulator Support	PCUC100020	PCUC100020	PCUC100020
4	4 Way Solenoid Valve	11013567	11013567	11014518
5	Thermal expansion valve	1104T075	1104T075	1104T125
6	Hot Gas Bypass	1104HGB1	1104HGB2	1104HGB3
7	Suction Controlling Pressure Switch	1105DA53	1105DA53	1105DA53
8	Muffler	1103MF03	1103MF04	1103MF04
9	Refrigerant Filling Valve	14020001	14020001	14020001
10	3 Way Service Valve	1106BG78	1106P118	N/A
11	3 Way Service Valve	1106BG12	1106BG58	N/A
12b	Condenser Heat Exchanger	05010028	05010312	050104EO

11.2 Outdoor Unit Electrical Components



CU150, CU200, CU250 (Outdoor Unit Electrical Components)				
No. in Figure	Part Description	Part No.		
		CU150	CU200	CU250
1a	Axial Fan	0404O500	0404O500	0404O500
2	Fan motor	03015010	03015010	03015010
4	Fan motor capacitor	100305MF	100305MF	100305MF
5	Compressor capacitor	100325MF	100335MF	100345MF
7	Contactor	1001G7LO	1001G7LO	1001G7LO

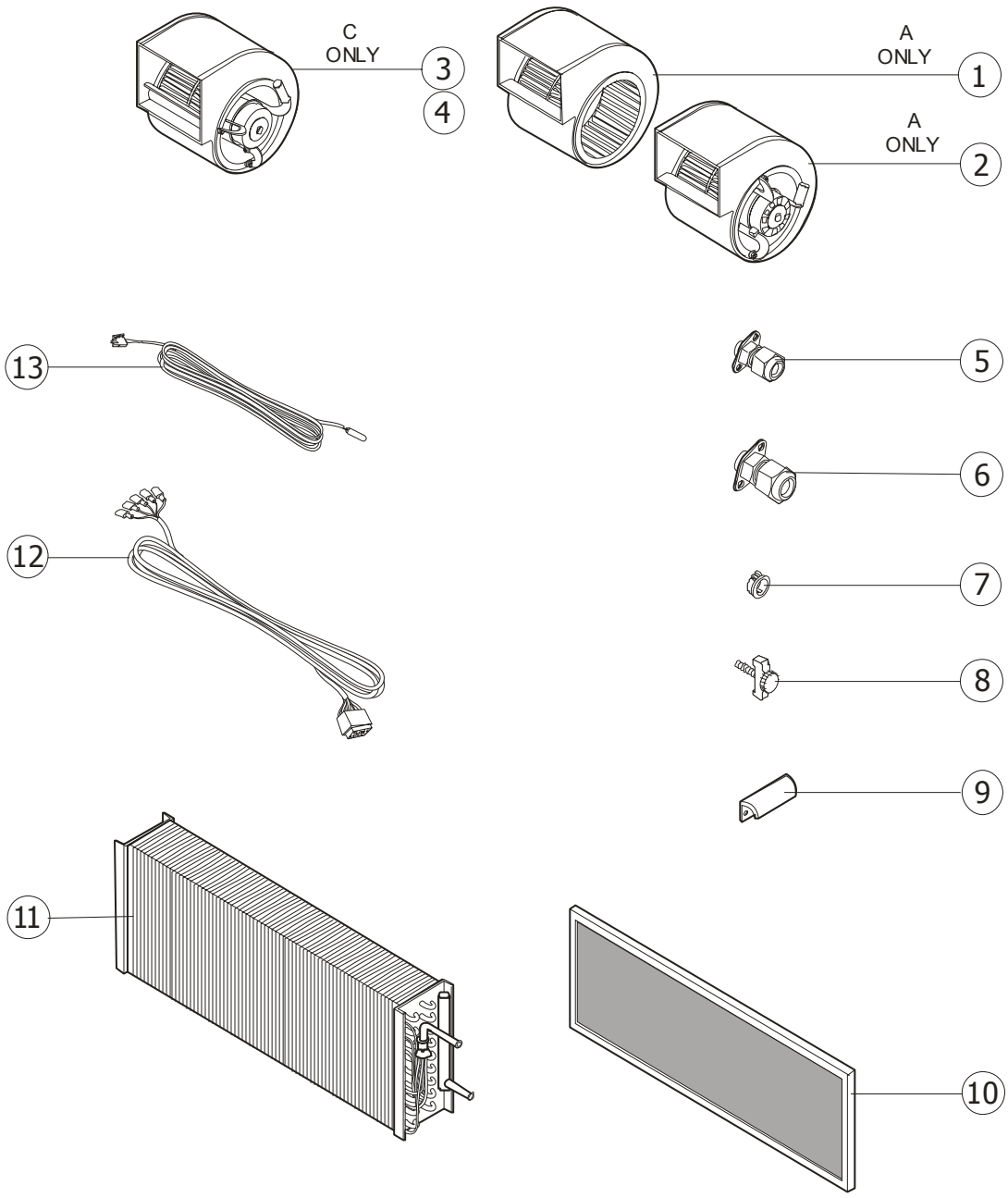
CU300, CU350, CU400 (Outdoor Unit Electrical Components)				
No. in Figure	Part Description	Part No.		
		CU300	CU350	CU400
1a	Axial Fan	0404O500	0404O500	0404O500
2	Fan motor	03015010	03015010	03015010
3	Fan protector	1505K500	1505K500	1505K500
4	Fan motor capacitor	100305MF	100305MF	100305MF
5	Compressor capacitor	100345MF	100340MF	100340MF
6	Contactor 1Ph	1001G7LO	1001G7LO	1001G7LO
7	Contactor 3Ph	1001CI09	1001CI09	1001CI13

CU450, CU480, CU500 (Outdoor Unit Electrical Components)				
No. in Figure	Part Description	Part No.		
		CU450	CU480	CU500
1a	Axial Fan	0404O500	0404O500	0404O500
2	Fan motor	03015010	03015010	03014011
3	Fan protector	1505K500	1505K500	1505K500
4	Fan motor capacitor	100305MF	100305MF	100310MF
6	Contactor	1001CI12	1001CI12	1001CI15

CU600, CU700, CU800 (Outdoor Unit Electrical Components)				
No. in Figure	Part Description	Part No.		
		CU600	CU700	CU800
1a	Axial Fan	0404O500	0404O550	0404O550
2	Fan motor	03015010	03014011	03014011
3	Fan protector	1505K500	1505K500	1505K500
4	Fan motor capacitor	100310MF	100310MF	100310MF
6	Contactor	1001Ci20	1001Ci20	1001Ci25
8	Normally Open Relay	1001G7LO	1001G7LO	1001G7LO
9	RST Controller (for "Scroll" only)	1001RSTC	1001RSTC	1001RSTC

CU1000, CU1200, CU1400 (Outdoor Unit Electrical Components)				
No. in Figure	Part Description	Part No.		
		CU1000	CU1200	CU1400
1b	Axial Fan with motor and protector	405Z063	405Z063	405Z063
6	Contactor	1001AB26	1001AB26	1001AB26
7	Contactor	1001AB09	1001AB09	1001AB09
8	Normally Open Relay	1001G7L0	1001G7L0	1001G7L0
9	RST Controller	1001RSTC	1001RSTC	1001RSTC

11.3 Indoor Unit Assembly



Indoor Unit Assembly Parts								
No. in Fig.	Part Description	Qty. Per Unit	Part No.					
			CU150-A	CU150-C	CU200-A	CU200-C	CU250-A	CU250-C
1	Centrifugal Fan – Impeller (CU -A)		401M175	N/A	220M401	N/A	220M401	N/A
2	Centrifugal Fan – Casing (CU -A)		401B176	N/A	401B220	N/A	401B220	N/A
3	Centrifugal Fan – Right (CU -C)		N/A	4022691	N/A	4021100	N/A	4021100
4	Centrifugal Fan – Left (CU -C)		N/A	4022696	N/A	4021101	N/A	4021101
5	Fitting – Flare		1106MF38	1106MF38	1106MF38	1106MF38	1106MF38	1106MF38
6	Fitting – Flare		1106MF12	1106MF12	1106MF12	1106MF12	1106MF12	1106MF12
7	Plastic Joint		100955B22	100955B22	100955B22	100955B22	100955B22	100955B22
8	Plastic Fastening Screw		13010043	13010043	13010043	13010043	13010043	13010043
9	plastic handle		15050001	15050001	15050001	15050001	15050001	15050001
10	Duralast filter 1/2"		15040060	15040061	15044464	15044465	15040064	15040065
11	Evaporator Heat Exchanger		5010485	5010428	5010432	5010441	5010432	5010441
12	Fan Connector Cable		10050070	10050070	10050070	10050070	10050070	10050070
13	Indoor Unit Coil Sensor Cable		904T511	904T511	904T511	904T511	904T511	904T511

Indoor Unit Assembly Parts								
No. in Fig.	Part Description	Qty. Per Unit	Part No.					
			CU300-A	CU300-C	CU350-A	CU350-C	CU400-A	CU400-C
1	Centrifugal Fan – Impeller (CU -A)		401M7x7	N/A	401M7x7	N/A	4022691	N/A
2	Centrifugal Fan – Casing (CU -A)		401B7x7	N/A	401B7x7	N/A	4022696	N/A
3	Centrifugal Fan – Right (CU -C)		N/A	4021100	N/A	4021100	N/A	4021104
4	Centrifugal Fan – Left (CU -C)		N/A	4021101	N/A	4021101	N/A	4021105
5	Fitting – Flare		1106MF38	1106MF38	1106MF38	1106MF38	1106MF12	1106MF12
6	Fitting – Flare		1106MF58	1106MF58	1106MF58	1106MF58	1106MF34	1106MF34
7	Plastic Joint		100953822	100953822	100953822	100953822	100953822	100953822
8	Plastic Fastening Screw		13010043	13010043	13010043	13010043	13010043	13010043
9	plastic handle		15050001	15050001	15050001	15050001	15050001	15050001
10	Duralast filter 1/2"		15040068	15040069	15040068	15040069	15040072	15040073
11	Evaporator Heat Exchanger		5010455	5010413	5010455	5010413	5010427	5010424
12	Fan Connector Cable		1050070	1050070	1050070	1050070	1050070	1050070
13	Indoor Unit Coil Sensor Cable		904T511	904T511	904T511	904T511	904T511	904T511

Indoor Unit Assembly Parts								
No. in Fig.	Part Description	Qty. Per Unit	Part No.					
			CU450-A	CU450-C	CU480-A	CU480-C	CU500-A	CU500-C
1	Centrifugal Fan – Right (CU -A)		4022691	N/A	4022691	N/A	4022582	N/A
2	Centrifugal Fan – Left (CU -A)		4022696	N/A	4022696	N/A	4022584	N/A
3	Centrifugal Fan – Right (CU -C)		N/A	4021104	N/A	4021106	N/A	4021118
4	Centrifugal Fan – Left (CU -C)		N/A	4021105	N/A	4021107	N/A	4021119
5	Fitting – Flare		1106MF12	1106MF12	1106MF12	1106MF12	1106MF12	1106MF12
6	Fitting – Flare		1106MF34	1106MF34	1106MF34	1106MF34	1106MF78	1106MF78
7	Plastic Joint		100955B22	100955B22	100955B22	100955B22	100955B22	100955B22
8	Plastic Fastening Screw		13010043	13010043	13010043	13010043	13010043	13010043
9	plastic handle		15010001	15010001	15010001	15010001	15010001	15010001
10	Duralast filter 1/2"		15040072	15040076	15040072	1505001	1505001	1505001
11	Evaporator Heat Exchanger		5010427	5010414	5010510	15040079	15040082	15040083
12	Fan Connector Cable		10050070	10050070	10050070	10050070	10050070	10050070
13	Indoor Unit Coil Sensor Cable		904TS11	904TS11	904TS11	904TS11	904TS11	904TS11

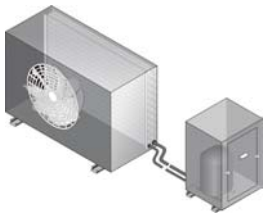
Indoor Unit Assembly Parts								
No. in Fig.	Part Description	Qty. Per Unit	Part No.					
			CU600-A	CU600-C	CU700-A	CU700-C	CU800-A	CU800-C
1	Centrifugal Fan – Right (CU -A)		4021100	N/A	4021101	N/A	4021104	N/A
2	Centrifugal Fan – Left (CU -A)		4021101	N/A	4021105	N/A	4021105	N/A
3	Centrifugal Fan – Right (CU -C)		N/A	4021118	N/A	4021120	N/A	4021120
4	Centrifugal Fan – Left (CU -C)		N/A	4021119	N/A	4021121	N/A	4021121
5	Fitting – Flare		1106MF12	1106MF12	1106MF12	1106MF12	1106MF12	1106MF12
6	Fitting – Flare		1106MF78	1106MF78	1106MF78	1106MF78	1106MF78	1106MF78
7	Plastic Joint		110955B22	110955B22	110955B22	110955B22	110955B22	110955B22
8	Plastic Fastening Screw		13010043	13010043	13010043	13010043	13010043	13010043
9	plastic handle		15050001	15050001	15050001	15050001	15050001	15050001
10	Duralast filter 1/2"		15040086	15040087	15040090	15040091	15040094	15040095
11	Evaporator Heat Exchanger		5010473	5010423	5010472	5010471	50104E6	50104E5
12	Fan Connector Cable		10050070	10050070	10050070	10050070	10050070	10050070
13	Indoor Unit Coil Sensor Cable		904TS11	904TS11	904TS11	904TS11	904TS11	904TS11

Indoor Unit Assembly Parts						
No. in Fig.	Part Description	Qty. Per Unit	Part No.			
			CU1000-A	CU1000-C	CU1200-A	CU1400-A
1	Centrifugal Fan – Right (CU -A)	1	4021108	N/A	4021138	4021120
2	Centrifugal Fan – Left (CU -A)	1	4021109	N/A	4021138	4021120
3	Centrifugal Fan – Right (CU -C)		N/A	4021120	N/A	N/A
4	Centrifugal Fan – Left (CU -C)		N/A	4021120	N/A	N/A
5	Fitting – Flare	1	1106MF12	1106MF12	1106MF58	1106MF78
6	Fitting – Flare	1	1106MF78	1106MF78	N/A	N/A
7	Plastic Joint	1	1009SB22	1009SB22	1009SB22	1009SB22
8	Plastic Fastening Screw	4	13010043	13010043	13010043	13010043
9	plastic handle	2	15050001	15050001	15050001	15050001
10	Duralast filter 1/2"	1	15040051	15040050	15040052	15040053
11	Evaporator Heat Exchanger	1	5010489	50104C8	5010486	50104E8
12	Fan Connector Cable	1	10050071	10050071	10050071	10050071
13	Indoor Unit Coil Sensor Cable	1	1005T002	1005T002	1005T002	904TS11

Appendix A – Additional CU Options

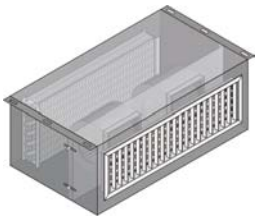
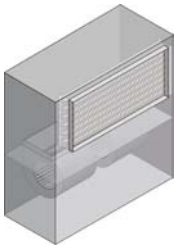
Unique's line of advanced CU air conditioners offers a broad range of configurations. Customized configurations are also available upon request.

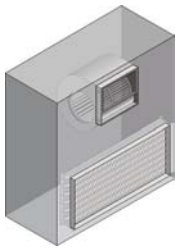
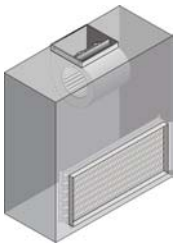
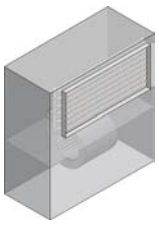
Outdoor Condensing Units

	Model	Features
	CUC-DT	Suitable for locations where air cannot be directed sideways. Includes two heat exchanger coils. Fan faces upwards.
	CUC-CT	Suitable for locations where air cannot be directed sideways. Includes one heat exchanger coil. Fan faces upwards.
	CUC-AT	Suitable for locations where air cannot be directed sideways. Includes one heat exchanger coil and two fans, facing upwards
	CUC-SP	Split outdoor condensing unit. Compressor separated from the heat exchanger and fan; located in a separate cabinet.

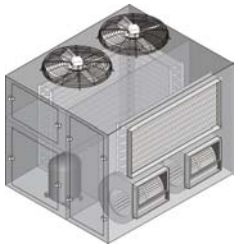
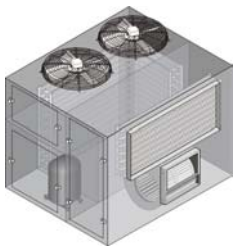
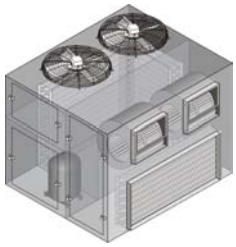
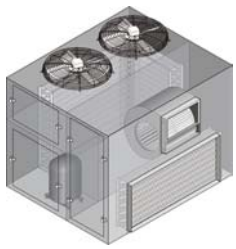
	Model	Features
	CUC-VAF	Suitable for locations where condensing unit cannot be placed on floor, but can be placed above floor level. Includes two fans, front air discharge.
	CUC-SQF	Extra silent unit. Includes three low speed fans and enlarged heat exchanger.

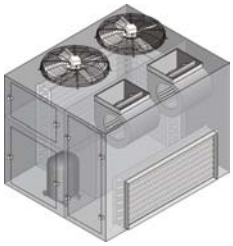
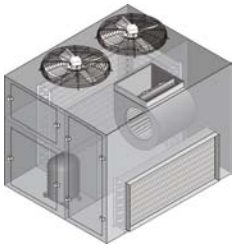
Indoor Evaporating Units

	Model	Features
	CUE-B	Suitable for visible, indoor installations. Air distributed through front side shutters. Pre-painted cabinet, available in wide range of colors.
	CUE-D	Evaporator with two side heat exchangers and one fan between them. Back side of evaporator can be installed next to wall.
	CUE-AD	Evaporator with one heat exchanger and two fans, pushing air sideways.
	CUE-AVF	Narrow, vertical evaporator. Front air suction with dual fan. Front air discharge.
	CUE-AVT	Narrow, vertical evaporator. Front air suction with dual fan. Top air discharge.
	CUE-AVFS	Vertical evaporator. Free bottom side air suction with dual fan. Front air discharge, through heat exchanger.

	Model	Features
	CUE-AVTS	Vertical evaporator. Free bottom side air suction with dual fan. The air is discharged from top side, through heat exchanger.
	CUE-CVF	Narrow, vertical evaporator. Front air suction and front air discharge.
	CUE-CVT	Narrow, vertical evaporator. Front air suction and top side air discharge.
	CUE-CVFS	Vertical evaporator. Free bottom side air suction. Front air discharge, through heat exchanger.
	CUE-CVTS	Vertical evaporator. Free bottom side air suction. The air is discharged from top side, through heat exchanger.

Package Units

	Model	Features
	CUP-A-350 to 500	Dual Fan configuration for models 350 to 500.
	CUP-A-600 to 800	Dual Fan configuration for models 600 to 800.
	CUP-AB	Return air suction at upper part of front side. Dual fan air distribution at lower part of front side.
	CUP-CB	Return air suction at upper part of front side. Single fan air distribution at lower part of front side.
	CUP-AF	Standard configuration, with dual fan front air discharge.
	CUP-CF	Standard configuration, with single fan front air discharge.

	Model	Features
	CUP-AT	Front side air suction, with dual fan top air discharge.
	CUP-CT	Front side air suction, with single fan top air discharge.

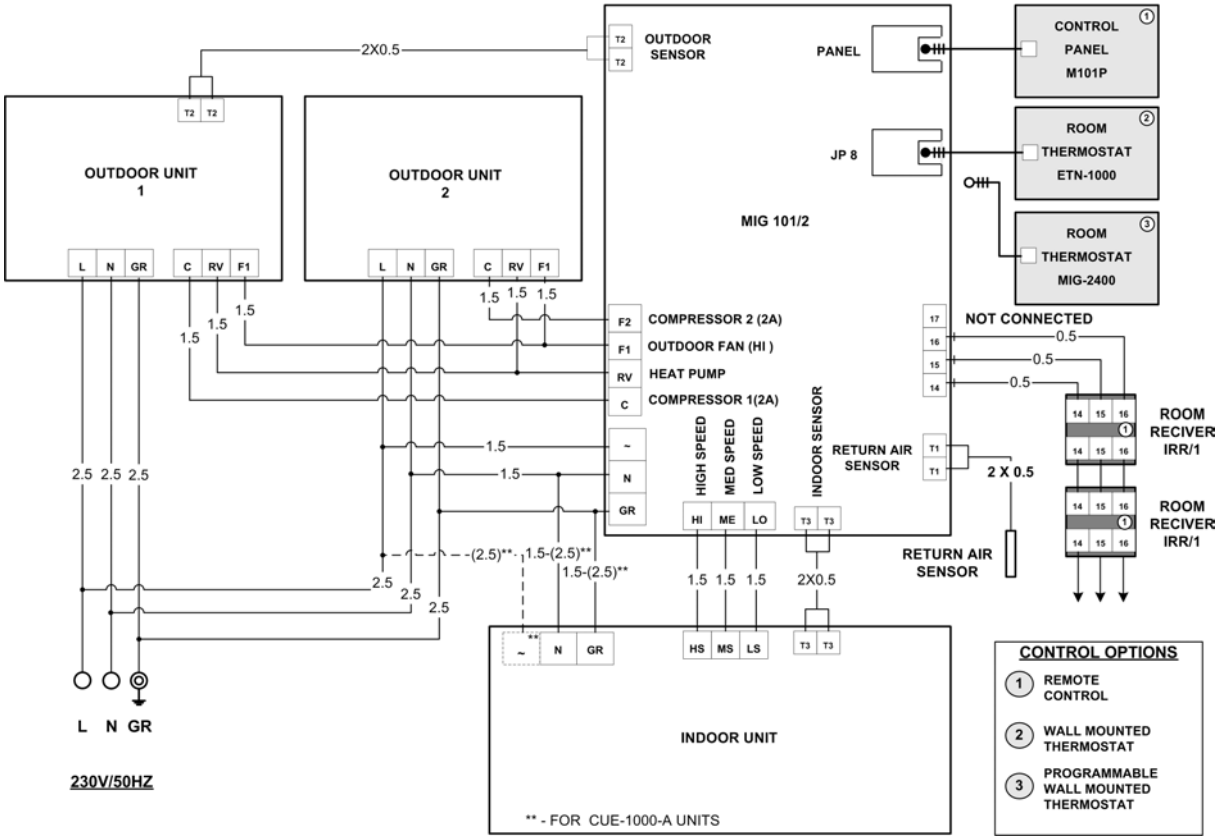
APPENDIX B – Special Control Boards

The standard CU Series air conditioners are equipped with MIG 101/3/02 control board. Additional control boards, to suit various climate conditions or special control requirements, are available upon request. See control package features in the following table.

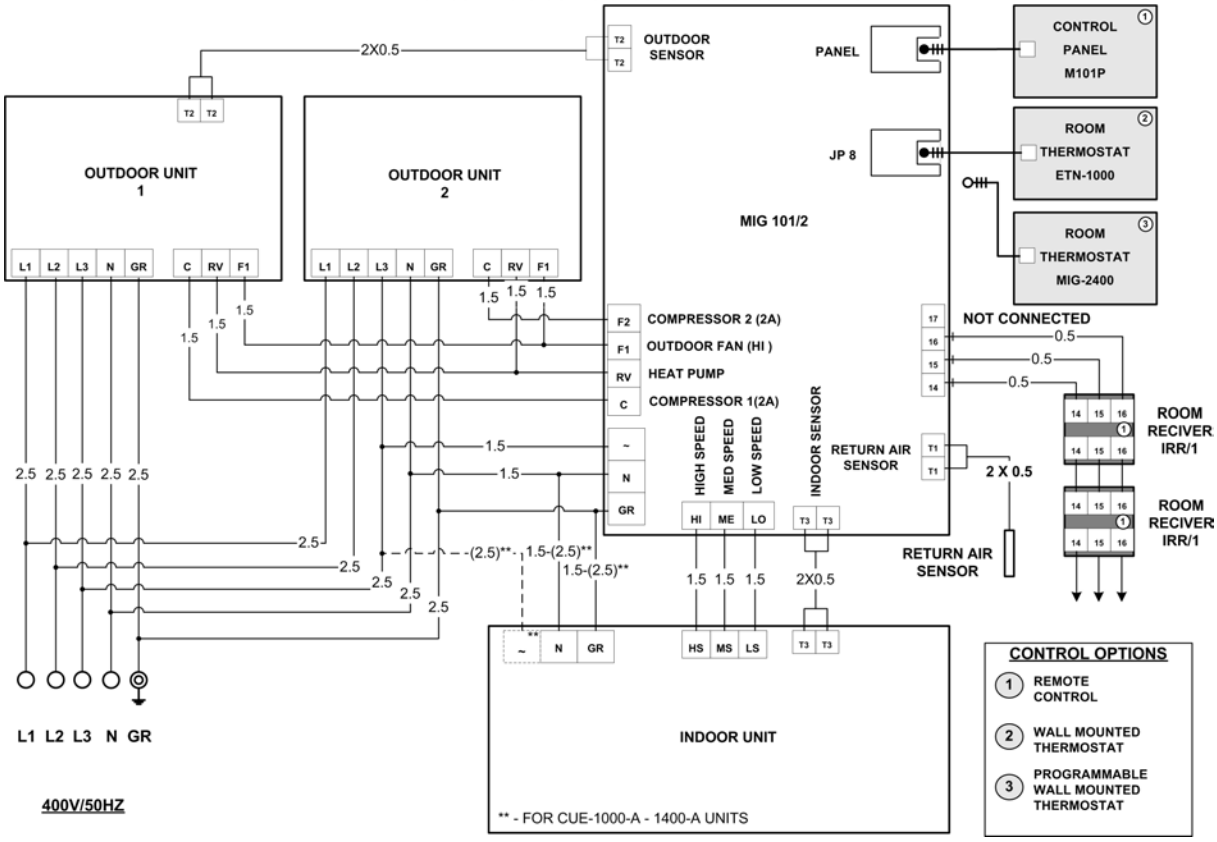
Designation	Description	Power	CU Range	Page
MIG 101/3/02	Standard control unit. Heat Pump features: 1-stage Cooling and 1- stage Heating. Design temperatures and external coil winter defrost are adequate for moderate climate conditions.	1-Ph	CU150…400	See Manual
		3-Ph	CU150…1400	See Manual
MIG 101/2	Heat Pump features: 2-stage Cooling and 2-stage Heating. Design temperatures and external coil winter defrost are adequate for moderate climate conditions.	1-Ph	CU150…400	87
		3-Ph	CU150…700	87
MIG 101/1H1	Heat Pump features: 1-stage Cooling and 1-stage Heating. Additional (2nd stage) heating by electrical heating element. The heating element is installed next to the indoor evaporator's coil. Or, optionally: 2nd stage heating by hot water coil, installed next to the indoor evaporator's coil. In this case the hot water is provided by the end-user and the unit controls the water inlet valve. Either way, 2nd stage provides heating in addition to the 1st stage. The 2nd stage is activated once the air conditioned room temperature drops below set-point.	1-Ph	CU150…400	88
		3-Ph	CU150…1400	88
MIG 101/H1	Heat Pump features: 1-stage Cooling only. Heating is provided by electrical heating element or by hot water heating coil, attached to the indoor evaporator's coil. Whenever heating is required, the compressor stops and the heating device are activated. The hot water is provided by the end-user.	1-Ph	CU150…400	89
		3-Ph	CU150…1400	89

Designation	Description	Power	CU Range	Page
MIG 101/1H2	Heat Pump features: 1-stage Cooling and 2-stage Heating. Additional (3rd stage) heating by electrical heating element, attached to the indoor evaporator's coil.	1-Ph	CU150…400	90
		3-Ph	CU150…1400	90
MIG 101/1H2/BEL	Heat Pump features: 1-stage Cooling and 1-stage Heating. Additional 2 heating stages (2nd and 3rd stage) by electrical heating element, attached to the indoor evaporator's coil. An external thermostat, set point controlled, monitors the ambient temperature. Whenever heating is required, the compressor stops and the heating device are activated.	1-Ph	CU150…400	91
		3-Ph	CU150…1400	91
MIG 101/H2	Heat Pump features: 1-stage Cooling only. 2 heating stages are provided by electrical heating elements, installed in the indoor unit cabinet.	1-Ph	CU150…400	92
		3-Ph	CU150…1400	92
MIG 101/H3	Heat Pump features: 1-stage Cooling only. 3 heating stages are provided by electrical heating elements, installed in the indoor unit cabinet.	1-Ph	CU150…400	93
		3-Ph	CU150…1400	93

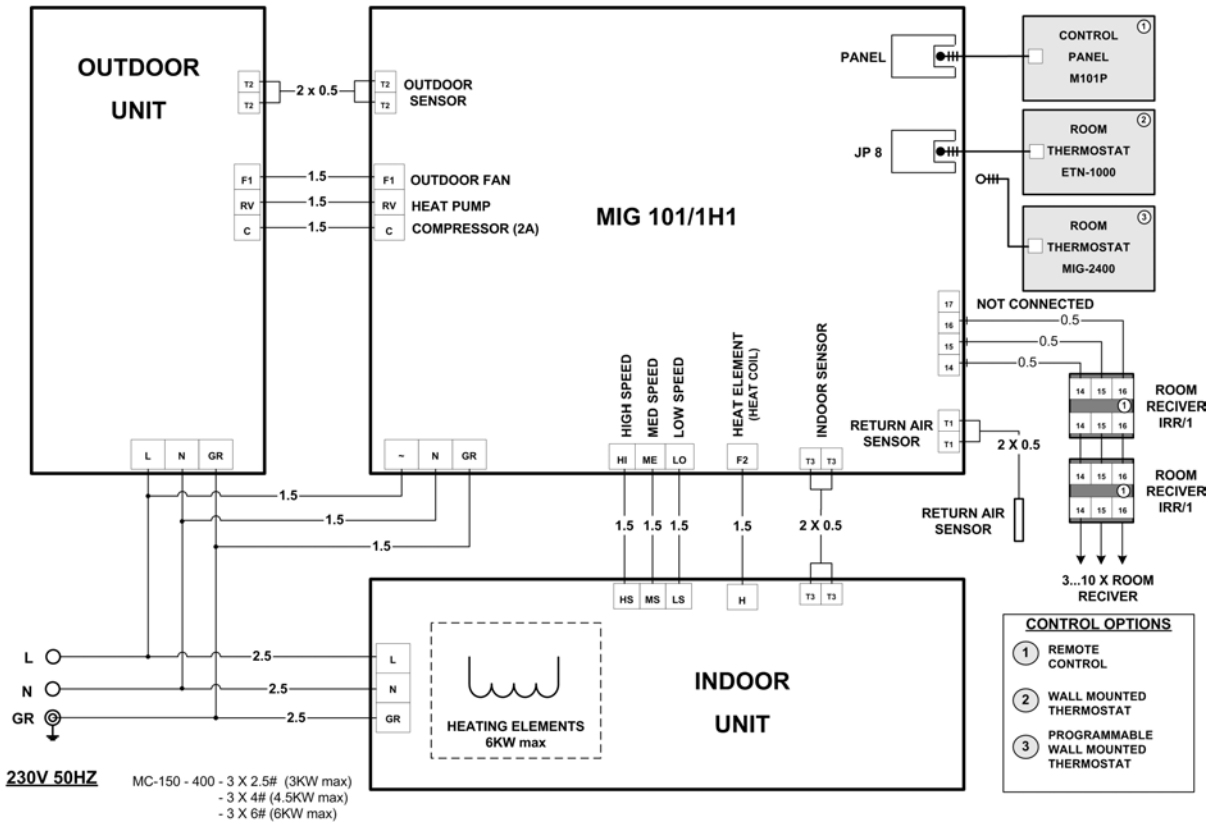
MIG 101/2
ELECTRICAL DIAGRAM FOR 2 X CU-150-CU-400 1PH UNITS



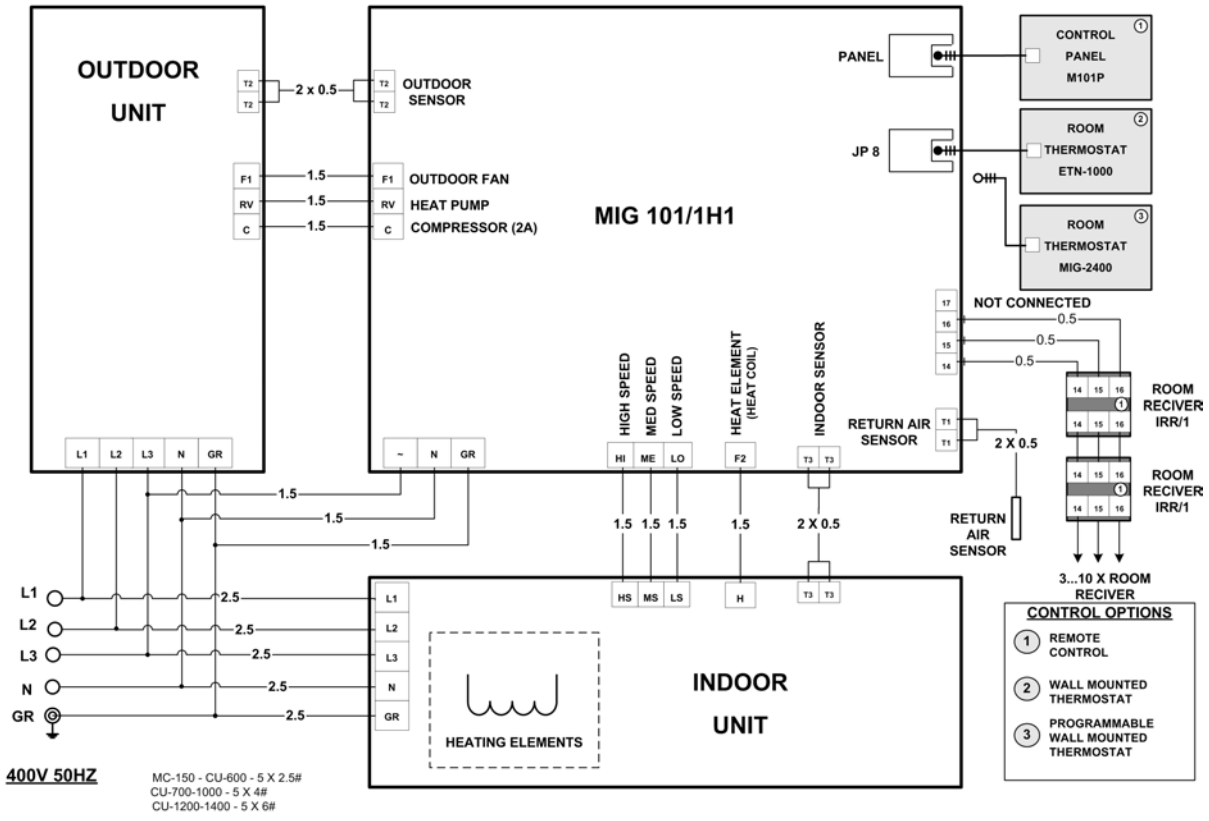
MIG 101/2
ELECTRICAL DIAGRAM FOR 2 X CU-150-CU-700 3PH UNITS



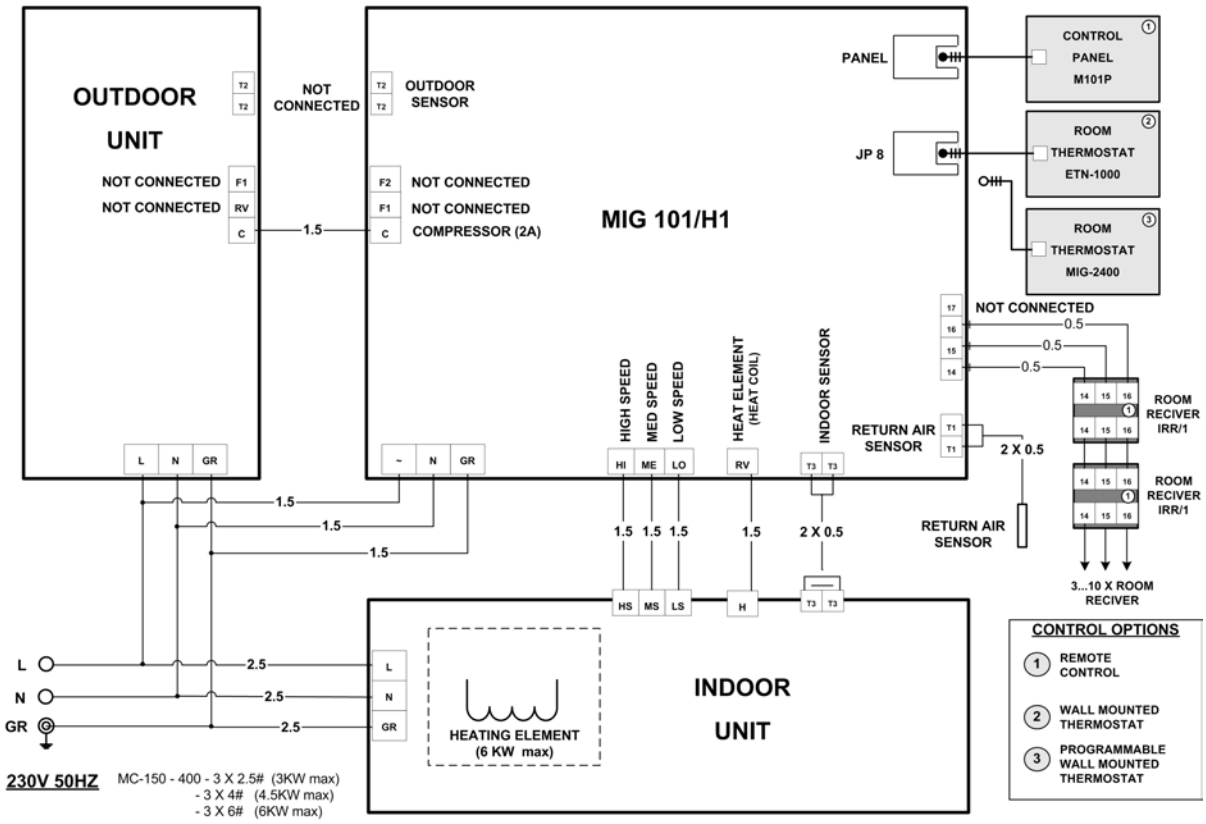
MIG 101/1H1
ELECTRICAL DIAGRAM FOR CU-150-400 1PH UNITS



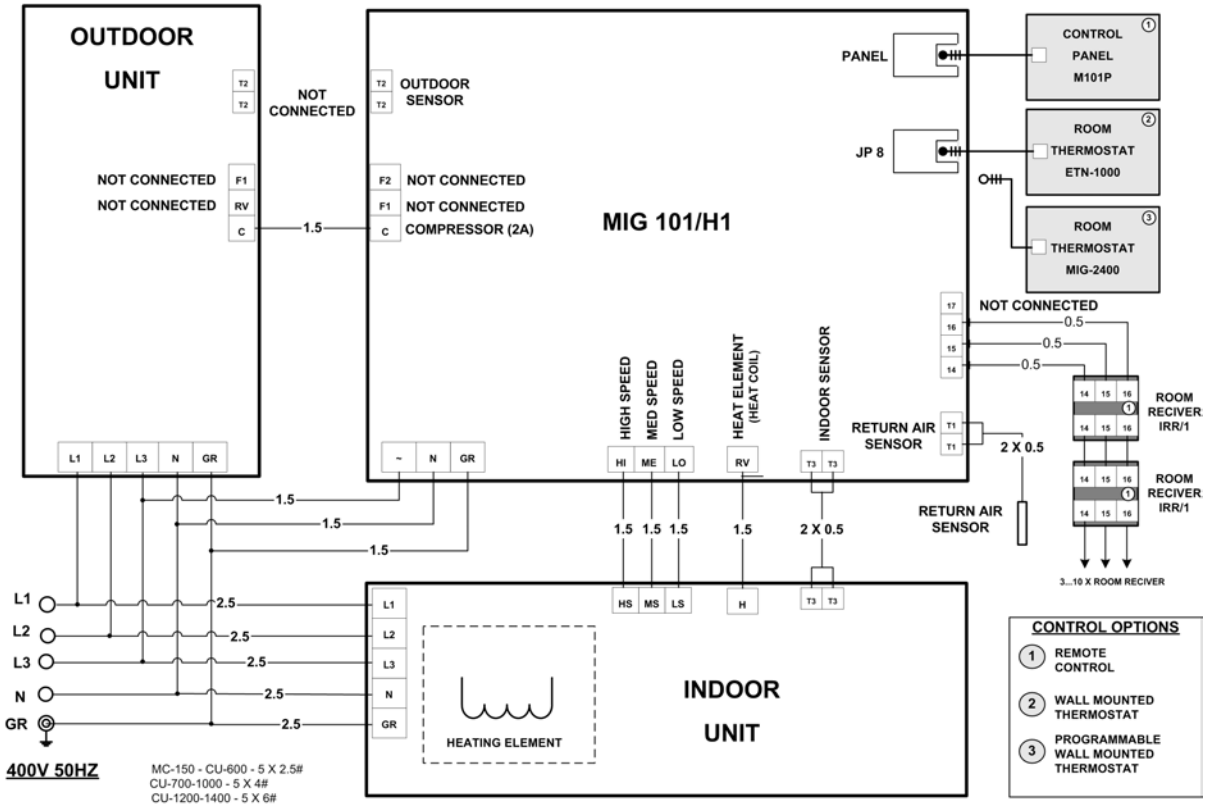
MIG 101/1H1
ELECTRICAL DIAGRAM FOR CU-150-CU-1400 3PH UNITS



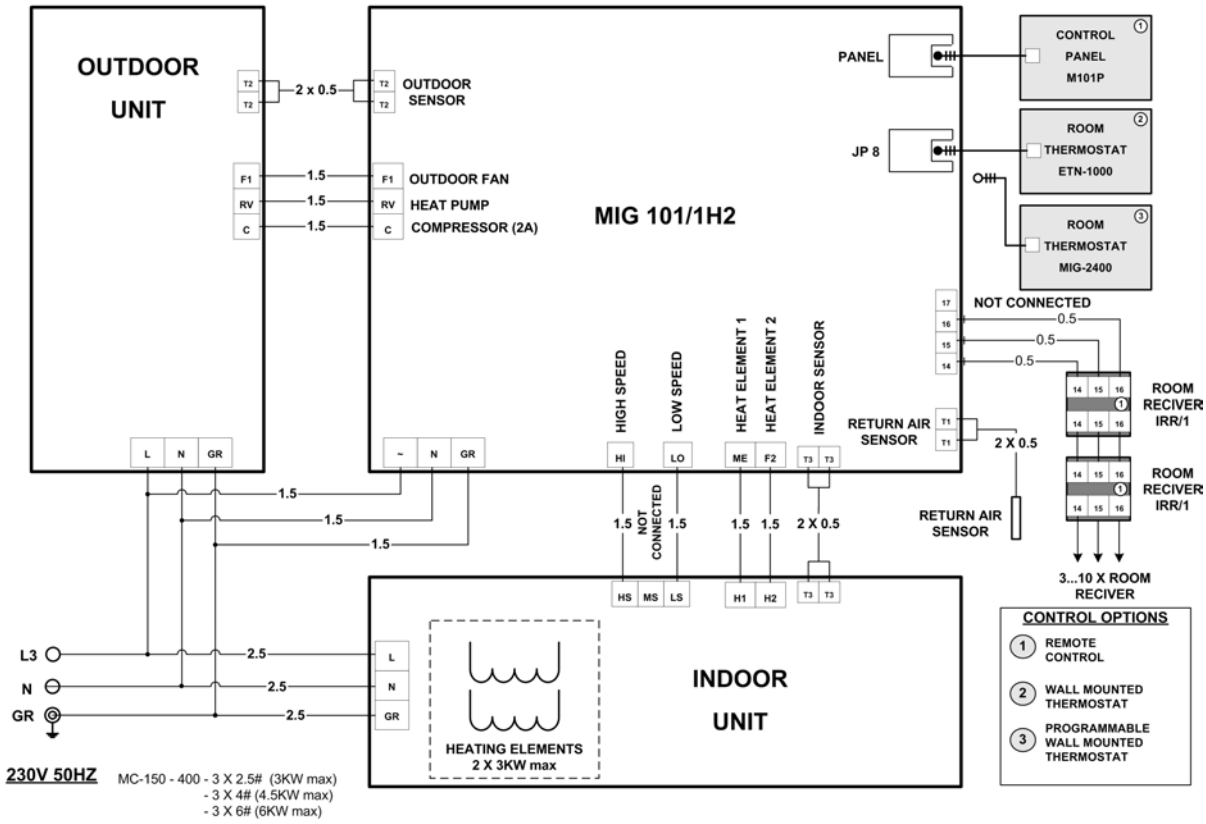
MIG 101/H1
ELECTRICAL DIAGRAM FOR CU-150-400 1PH UNITS



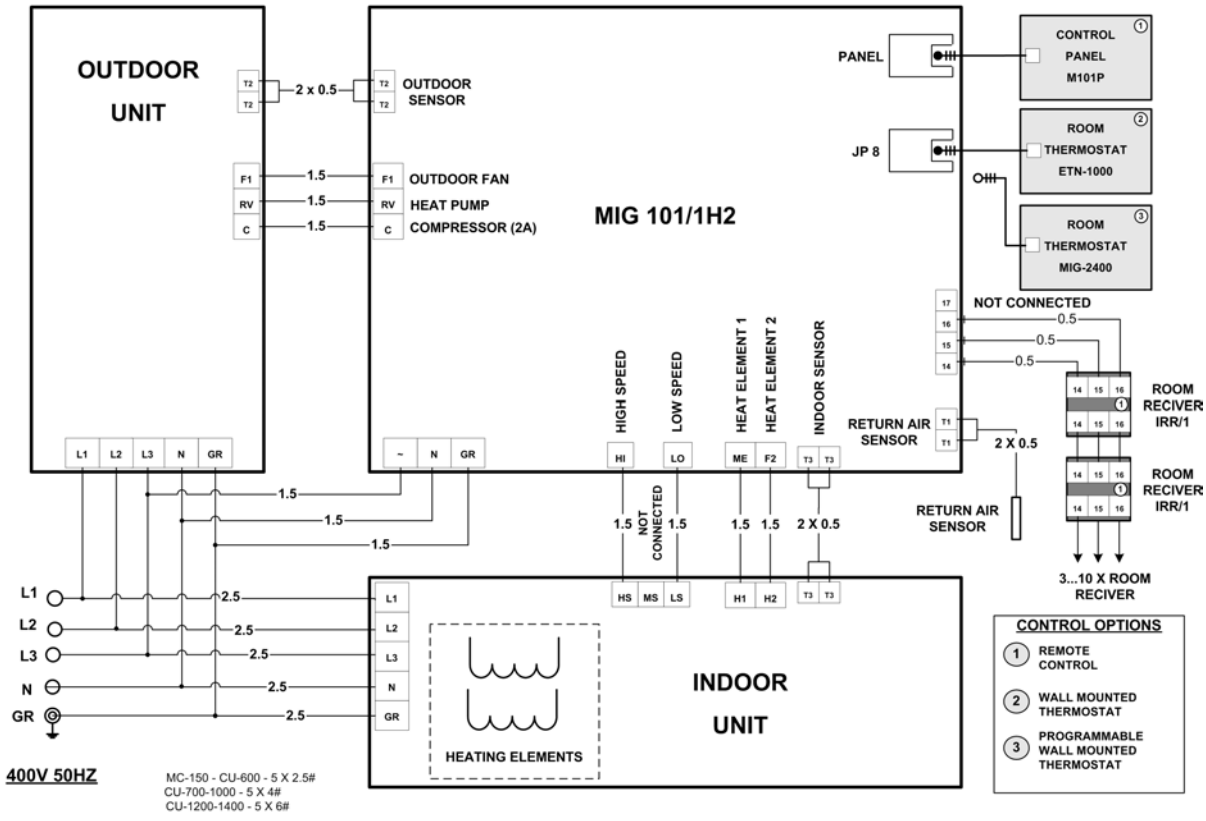
MIG 101/H1
ELECTRICAL DIAGRAM FOR CU-150-CU-1400 3PH UNITS

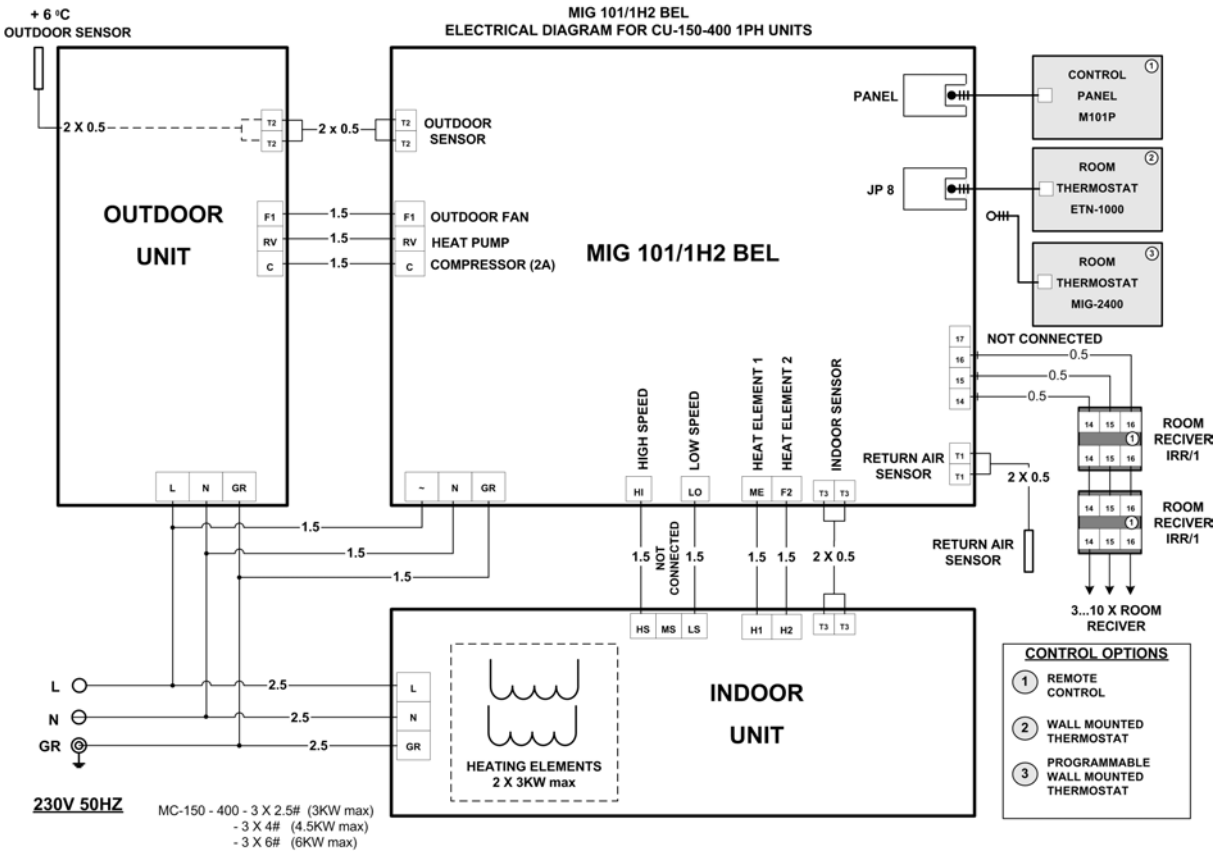


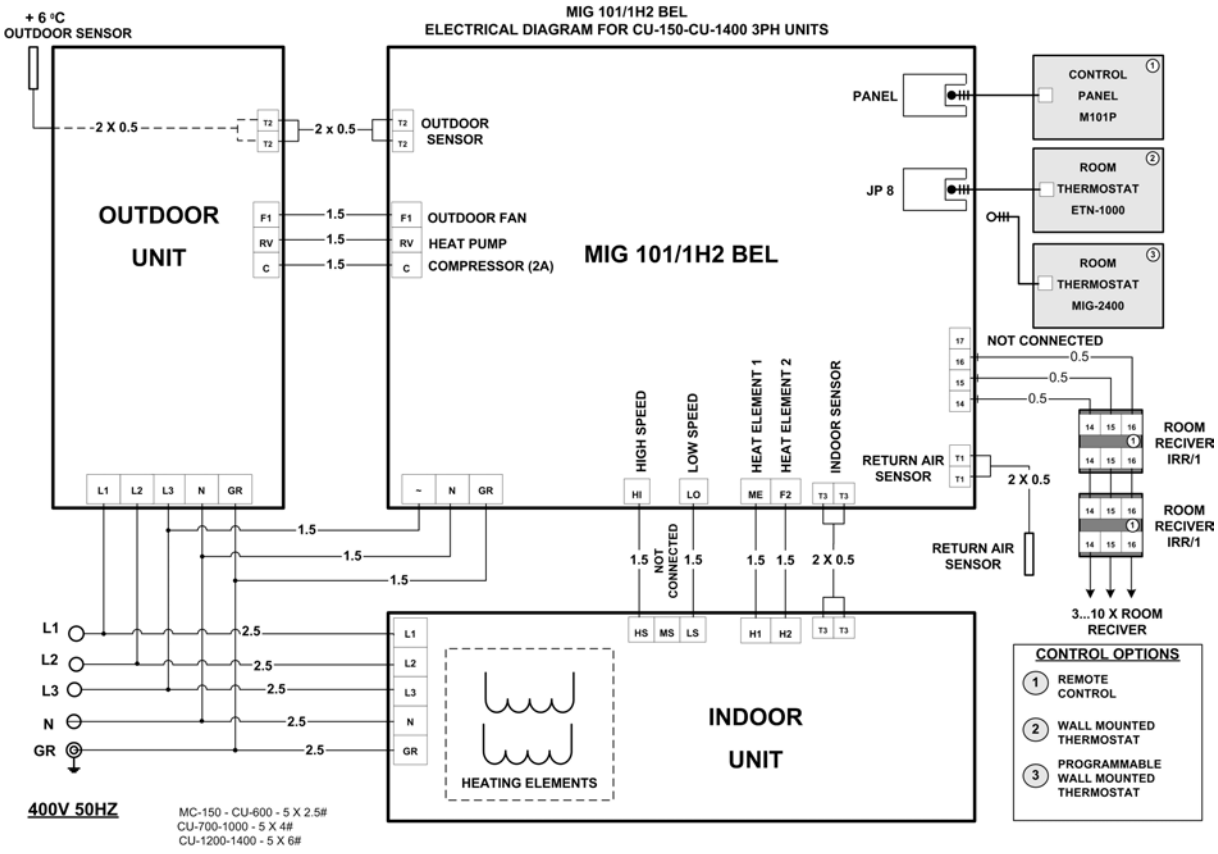
MIG 101/1H2
ELECTRICAL DIAGRAM FOR CU-150-400 1PH UNITS



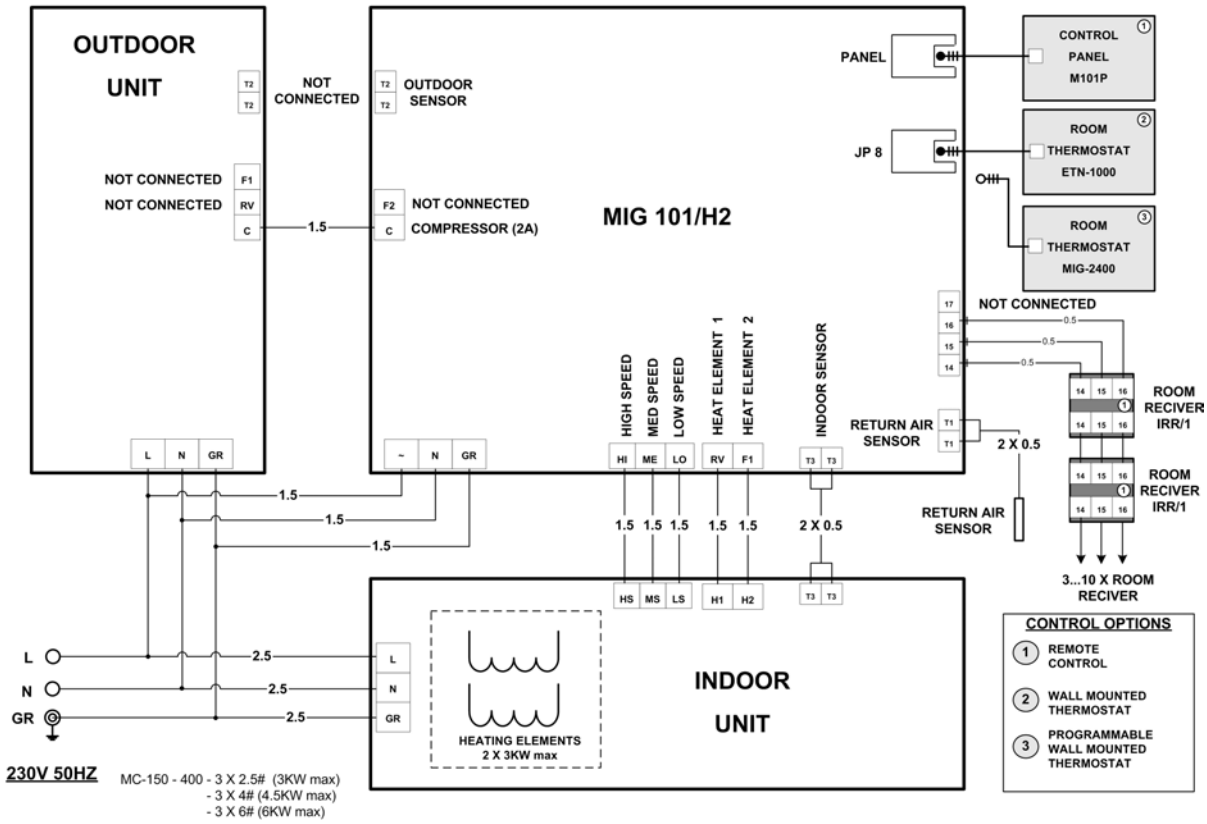
MIG 101/1H2
ELECTRICAL DIAGRAM FOR CU-150-CU-1400 3PH UNITS



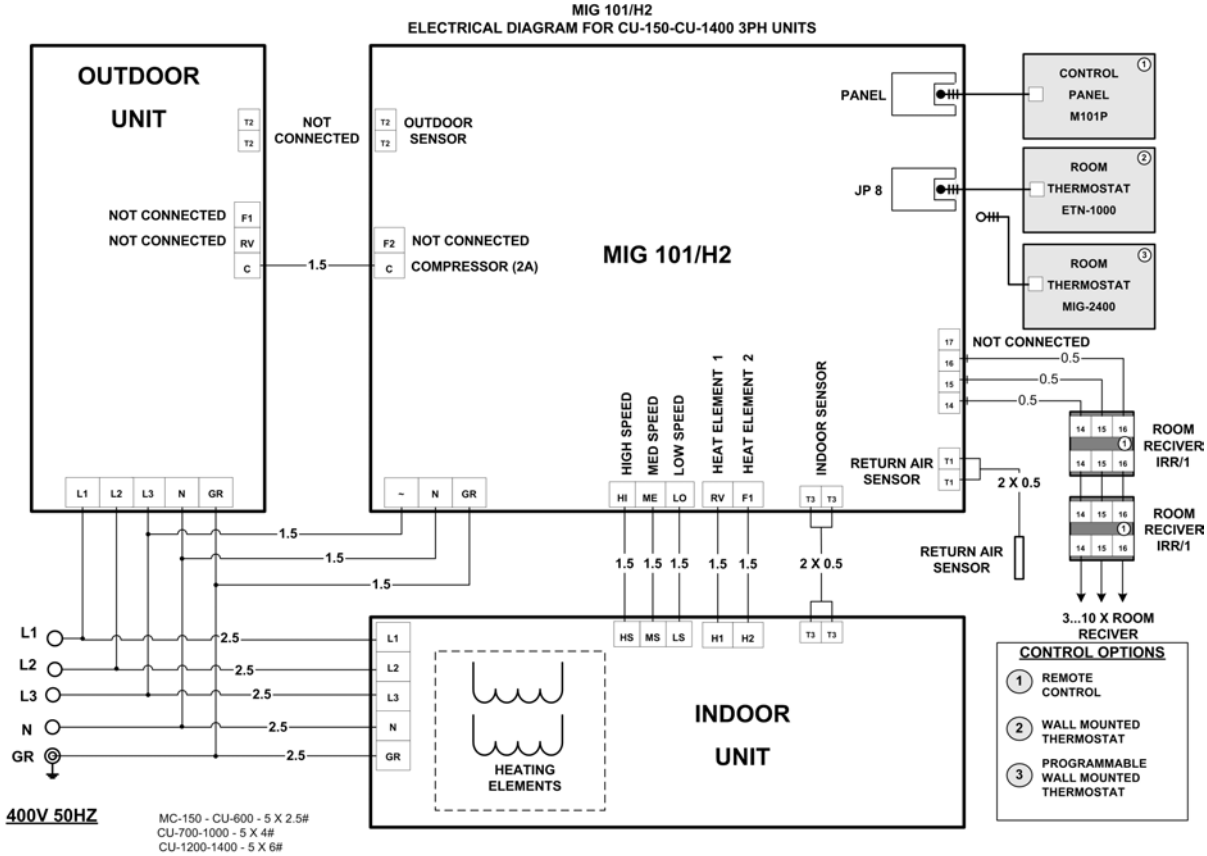

MIG 101/1H2 BEL
ELECTRICAL DIAGRAM FOR CU-150-400 1PH UNITS
+ 6 °C
OUTDOOR SENSOR
2 X 0.5
2 x 0.5
OUTDOOR SENSOR
OUTDOOR UNIT
F1
RV
C
1.5
OUTDOOR FAN
HEAT PUMP
COMPRESSOR (2A)
MIG 101/1H2 BEL
PANEL
CONTROL PANEL M101P
JP 8
ROOM THERMOSTAT ETN-1000
ROOM THERMOSTAT MIG-2400
NOT CONNECTED
0.5
HIGH SPEED
LOW SPEED
HEAT ELEMENT 1
HEAT ELEMENT 2
INDOOR SENSOR
RETURN AIR SENSOR
2 X 0.5
ROOM RECIVER IRR/1
3...10 X ROOM RECIVER
L
N
GR
2.5
HEATING ELEMENTS
2 X 3KW max
INDOOR UNIT
HS
MS
LS
H1
H2
230V 50HZ
MC-150 - 400 - 3 X 2.5# (3KW max)
- 3 X 4# (4.5KW max)
- 3 X 6# (6KW max)
CONTROL OPTIONS
1 REMOTE CONTROL
2 WALL MOUNTED THERMOSTAT
3 PROGRAMMABLE WALL MOUNTED THERMOSTAT


MIG 101/1H2 BEL
ELECTRICAL DIAGRAM FOR CU-150-CU-1400 3PH UNITS
+ 6 °C
OUTDOOR SENSOR
2 X 0.5
2 x 0.5
OUTDOOR SENSOR
OUTDOOR UNIT
F1
RV
C
1.5
OUTDOOR FAN
HEAT PUMP
COMPRESSOR (2A)
MIG 101/1H2 BEL
PANEL
CONTROL PANEL M101P
JP 8
ROOM THERMOSTAT ETN-1000
ROOM THERMOSTAT MIG-2400
NOT CONNECTED
0.5
HIGH SPEED
LOW SPEED
HEAT ELEMENT 1
HEAT ELEMENT 2
INDOOR SENSOR
RETURN AIR SENSOR
2 X 0.5
ROOM RECIVER IRR/1
3...10 X ROOM RECIVER
L1
L2
L3
N
GR
2.5
HEATING ELEMENTS
INDOOR UNIT
HS
MS
LS
H1
H2
400V 50HZ
MC-150 - CU-600 - 5 X 2.5#
CU-700-1000 - 5 X 4#
CU-1200-1400 - 5 X 6#
CONTROL OPTIONS
1 REMOTE CONTROL
2 WALL MOUNTED THERMOSTAT
3 PROGRAMMABLE WALL MOUNTED THERMOSTAT

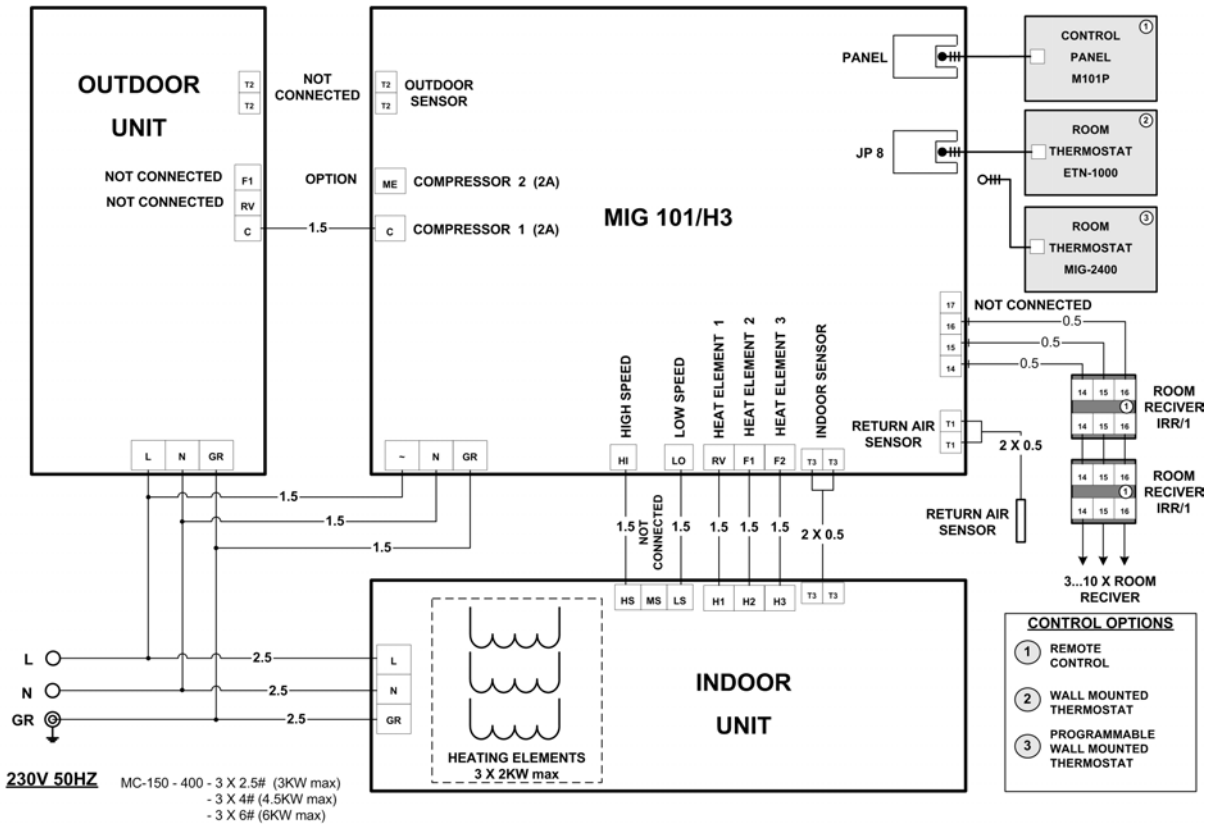
MIG 101/H2
ELECTRICAL DIAGRAM FOR CU-150-400 1PH UNITS



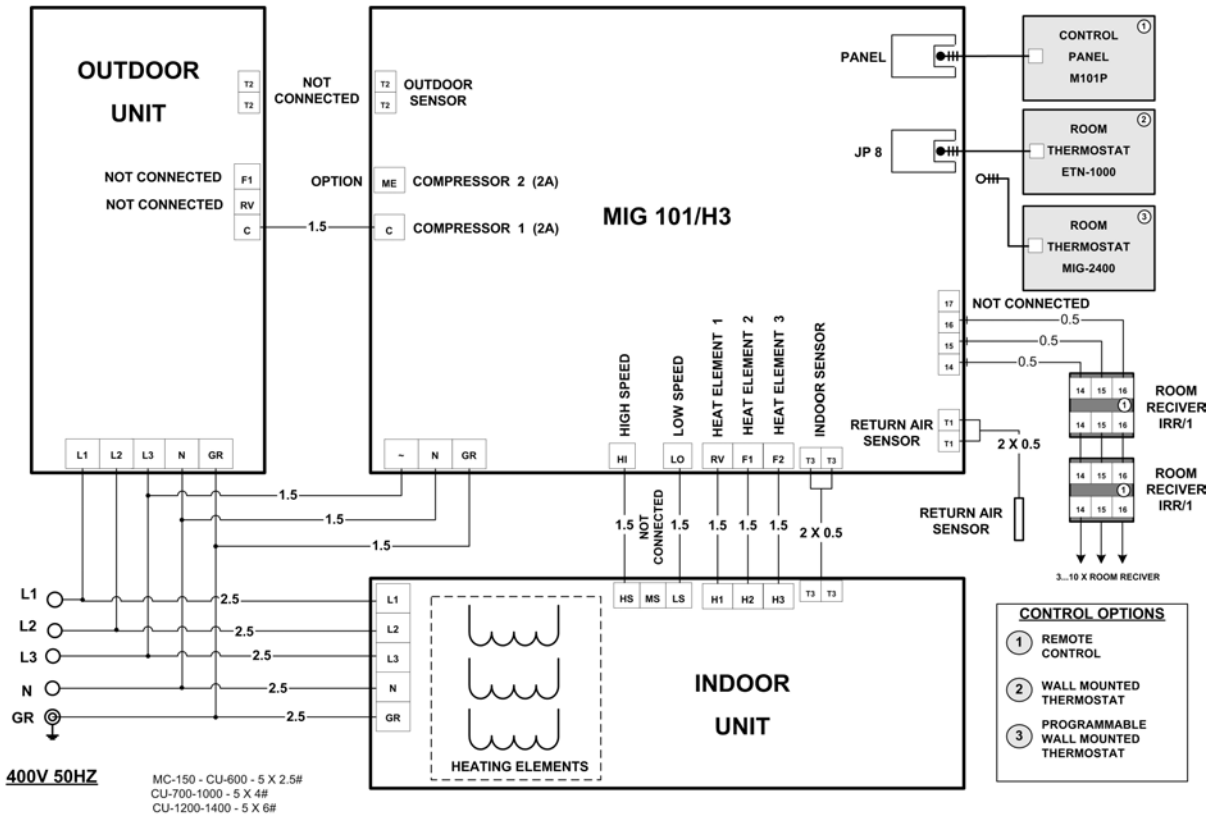
MIG 101/H2
ELECTRICAL DIAGRAM FOR CU-150-CU-1400 3PH UNITS



MIG 101/H3
ELECTRICAL DIAGRAM FOR CU-150-400 1PH UNITS



MIG 101/H3
ELECTRICAL DIAGRAM FOR CU-150-CU-1400 3PH UNITS



NOTES

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